Journal of Economic Entomology

Published by
THE ENTOMOLOGICAL
SOCIETY OF AMERICA

Volume 66 • 1973

JOURNAL OF ECONOMIC ENTOMOLOGY

WALLACE P. MURDOCH, *Executive Secretary*
JAMES S. PACKER, *Managing Editor*
4603 Calvert Road, College Park, Maryland 20740

GEORGE ANASTOS, *Editor*
4603 Calvert Road, College Park, Maryland 20740

EDITORIAL BOARD

M. M. BARNES, *Chairman*, Riverside, Calif. (F, 1973)
RALPH W. SHERMAN, Silver Spring, Md. (E, 1974)
ROGER H. GROTHAUS, Camp Lejeune, N. C. (D, 1976)
ROBERT E. MENZER, College Park, Md. (B, 1975)
L. R. NAULT, Wooster, Ohio (C, 1977)

A bimonthly journal devoted to the interests of economic entomology. Authors are entirely responsible for statements in the JOURNAL, whether of fact or opinion.

Subscriptions. Nonmembers in North America and U.S. Possessions–$25.00 per year; elsewhere–$26.00. Single copies $5.00. Deliveries overseas are not guaranteed and foreign mailings are made at the subscriber's risk. Subscribers will be charged a service fee of $1.00 for forwarding journals returned to the ESA because of failure of the subscriber to provide a timely change of address. Membership dues: Active $15.00; student $3.00. Members' subscription rates: $12.50 in North America and U.S. Possessions; $13.50 elsewhere.

Missing numbers cannot be supplied free of charge in North America and U. S. Possessions unless notice is received within 60 days after the appearance of issues concerned. The Executive Secretary will be glad to quote prices for back numbers.

Reprints. A reprint price schedule that applies to orders received before the JOURNAL goes to press is shown on the order blank sent with galley proof. No reprints are furnished gratis. For price schedule see BULL. ENTOMOL. SOC. AMER. 19(2): 74, June 1973.

Business communications and matters pertaining to subscriptions and advertisements should be sent to the Executive Secretary. Changes of address must be received 5 days prior to the month of issue to be effective for that month.

Manuscripts and other copy should be sent to the Executive Secretary. Authors are urged to consult "Publication Policies and Instructions for Contributors" before submitting manuscripts (BULL. ENTOMOL. SOC. AMER. 19(2): 85, June 1973). Reproduction of abstracts is authorized. Page charges are $40.00 per page, partial pages proportionately.

METRIC CONVERSION

Contributors of papers on laboratory studies should use the metric system exclusively. Use of the metric system in reporting the results of field studies is a desirable ultimate objective. Since it is difficult to replace immediately such standard concepts as lb/acre by the units kg/hectare, yards by meters, or miles by kilometers, the following table of conversion factors is presented.

1 inch = 2.54 cm	1 ft^3 = 28.3 dm^3	1 cm = 0.394 in.	1 dm^3 = 0.0353 ft^3
1 yard = 0.914 m	1 acre = 0.405 hectares	1 m = 3.28 ft = 1.094 yards	1 hectare = 2.47 acres
1 mile = 1.61 km	1 lb/acre = 1.12 kg/hectare	1 km = 0.621 mile	1 kg/hectare = 0.89 lb/acre
1 lb = 453.6 g	1 lb/$in.^2$ (psi) = 70.3 g/cm^2	1 kg = 2.2 lb	1 g/cm^2 = 0.0142 psi
1 gal (U.S.) = 3.785 liters	1 lb/gal (U.S.) = 120 g/liter	1 liter = 0.264 gal (U.S.)	1 g/liter = 0.83 lb/100 gal (U.S.) = 1000 ppm

ENTOMOLOGICAL SOCIETY OF AMERICA

OFFICERS—1973

President—G. E. Guyer, East Lansing, Michigan
President-elect—P. L. Adkisson, College Station, Texas
Executive Secretary—W. P. Murdoch, College Park, Maryland

GOVERNING BOARD

G. E. Guyer, East Lansing, Michigan (1974)
P. L. Adkisson, College Station, Texas (President-elect, 1975)
T. A. Brindley, Ankeny, Iowa (North Central, 1975)
Stanley Coppock, Jr., Stillwater, Oklahoma (Southwestern, 1973)
G. B. Craig, Jr., Notre Dame, Indiana (D, 1974)
W. G. Eden, Gainesville, Florida (Past President, 1973)
G. P. Georghiou, Riverside, California (B, 1975)
R. H. Harwood, Pullman, Washington (Pacific, 1974)
P. D. Hurd, Washington, D. C. (A, 1975)
L. C. Kuitert, Gainesville, Florida (Southeastern, 1974)
F. L. McEwen, Guelph, Ontario (C, 1973)
W. P. Murdoch, College Park, Maryland (Non-voting)
L. A. Riehl, Riverside, California (F, 1973)
H. E. Scott, Raleigh, North Carolina (E, 1974)
R. W. Sherman, Silver Spring, Maryland (Eastern, 1973)

BRANCH OFFICERS

President

J. B. Kring—New Haven, Connecticut (Eastern)
D. L. Goleman—Columbus, Ohio (North Central)
R. O. Drummond—Kerrville, Texas (Southwestern)
L. D. Anderson—Riverside, California (Pacific)
T. R. Pfrimmer—Leland, Mississippi (Southeastern)

President-elect

C. H. Hoffman—Hyattsville, Maryland (Eastern)
J. T. Schultz—Fargo, North Dakota (North Central)
H. L. McMenemy—Dallas, Texas (Southwestern)
W. W. Allen—Berkeley, California (Pacific)
S. B. Hays—Clemson, South Carolina (Southeastern)

Secretary-Treasurers

H. T. Streu—New Brunswick, New Jersey (Eastern)
T. J. Helms—Lincoln, Nebraska (North Central)
W. H. Newton—College Station, Texas (Southwestern)
R. D. Carter—San Leandro, California (Pacific)
J. B. Graves—Baton Rouge, Louisiana (Southeastern)

AUTHOR INDEX TO VOLUME 66

February 1–299
April 301–588
June 589–831
August 833–1010
October 1011–1244
December 1245–1379

A

ABRAHAMSON, L. P., and R. C. MORRIS—Forest Tent Caterpillar: Control with ULV Trichlorfon in Water Tupelo Ponds 574
ADAMS, L. E., see E. ALAN CAMERON 811
ADKISSON, P. L., see C. L. COLE 524
ADLER, V. E., R. E. DOOLITTLE, H. SHIMANUKI, and M. JACOBSON—Electrophysiological Screening of Queen Substance and Analogues for Attraction to Drone, Queen, and Worker Honey Bees 33
ADLER, VICTOR E., see ROBERT T. STATEN 1263
AHLSTROM, KENNETH R., and GEORGE C. ROCK—Modifications of the Munger Cage for Studying Small Arthropods 1349
AHRENS, M. C., see G. T. HAGEL 877
AKRE, ROGER, D., WM. BRUCE HILL, and JOHN F. MACDONALD—Artificial Housing for Yellowjacket Colonies 803
AKRE, ROGER D., WM. BRUCE HILL, and JOHN F. MACDONALD—Magnetic Recovery of Ferrous Labels in a Capture-Recapture System for Yellowjackets 903
ALINIAZEE, M. T., and F. L. JENSEN—Microbial Control of the Grape Leaffolder with Different Formulations of *Bacillus thuringiensis* 157
ALINIAZEE, M. T., see E. M. STAFFORD—Management of Grape Pests in Central California Vineyards. 1. Cultural and Chemical Control of *Platynota stultana* on Grapes 154
ANDERSEN, L. W., see G. R. MANGLITZ 299
ANDO, KUNIO, see SEIJI HIRANO 349
ANTHONY, D. W., see C. S. LOFGREN 1085
APPLE, JAMES W., see JAMES A. LITSINGER 309
APPLEBY, JAMES E.—Observations on the Life History and Control of the Lilac Borer 248
APPLEBY, JAMES E., R. RANDELL, and S. RACHESKY—Chemical Control of the Bronze Birch Borer 258
ARMANIOUS, N. I., see S. G. NASSAR 847
ARMSTRONG, JOHN W., see EDWIN L. SODERSTROM 1305
ARRUDA, H. V., see O. GIANNOTTI 1228
ARTHUR, A. P., and B. C. SMITH—*Thymelicus lineola:* Effects on Mowing and Silica Sprays on Populations 907
ASKEW-WESTDAL—Obituary WILLARD ROSS ALLEN 1242
ASQUITH, DEAN—European Red Mite Control with Some New Acaricides 237
ASQUITH, DEAN, see W. M. BODE 1129
ASQUITH, DEAN, see RICHARD COLBURN 961, 991
ASQUITH, DEAN, and LARRY A. HULL—*Stethorus punctum* and Pest-Population Responses to Pesticide Treatments on Apple Trees 1197
ATALLAH, Y. H., see MOHEEB A. HANNA 589
AXELROD, HAROLD, see MIR S. MULLA 1089
AZIZ, SHAWKY A.—Toxicity of Certain Insecticide Standards Against the Southern Armyworm 68
AZIZ, SHAWKY A., and CHARLES O. KNOWLES—Oxythioquinox Acaricide: Toxicological Studies with Twospotted Spider Mites 1041

B

BAILEY, DONALD L., T. L. WHITFIELD, and B. J. SMITTLE—Flight and Dispersal of the Stable Fly 410
BAKER, BRUCE H., and GALEN C. TROSTLE—Douglas Fir Beetle Attraction and Tree-Group Response 1002
BAKER, J. E., and J. M. MABIE—Growth Responses of Larvae of the Rice Weevil, Maize Weevil, and Granary Weevil on a Meridic Diet 681
BAKER, J. E., and J. N. MABIE—*Tribolium confusum*: Food Additives as Ovicides 765
BAKER, R. G., see G. R. PESHO 456
BAKER, W. V.—A Method of Rearing Introduced Pine Sawfly Larvae Under Different Wavelengths of Light 262
BAKRY, NABILA M., see M. I. ZEID 1293
BALL, HAROLD J.—Western Corn Rootworm: A Ten-Year Study of Potential Resistance to Diazinon and Phorate in Nebraska 1015
BALL, HAROLD J., and M. F. B. CHAUDHURY—A Sex Attractant of the Western Corn Rootworm 1051
BALLEE, D. L., see R. C. HALL 315
BALOCK, JOHN W., see HORATIO C. MASON 753
BANDITSING, CHETTACHAI, and PRESTON E. HUNTER—Population Development of *Acarus siro* Reared at Three Temperatures Following Gamma Irradiation 82
BANKS, W. A., see DANIEL P. WOJCIK 550
BANKS, W. A., B. M. GLANCEY, C. E. STRINGER, D. P. JOUVENAZ, C. S. LOFGREN, and D. E. WEIDHASS—Imported Fire Ants: Eradication Trials with Mirex Bait 785
BANKS, W. A., D. P. JOUVENAZ, C. S. LOFGREN, and D. M. HICKS—Evaluation of Coatings for Corncob Grit-Soybean Oil Bait Used to Control Imported Fire Ants 241

BARGER, JACK H., ROY A. CUTHBERT, and DONALD G. SEEGRIST—Statistical Correlations Between GLC Assay and Smaller European Elm Bark Beetle Bioassay 79

BARKER, ROY J., and STEPHEN TABER, III—Evaluation of Gibberellic Acid in a Pollen Substitute for Honey Bees 1351

BARNES, E. E., and MAX H. BASS—Whitefringed Beetles: An Artificial Diet for Adults 581

BARTLETT, ALAN C., and L. J. LEWIS—Pink Bollworm: Chromosomal Damage and Reproduction After Gamma Irradiation of Larvae 731

BARTLETT, ALAN C., R. T. STATEN, and W. O. RIDGWAY—Gamma Irradiation of Eggs of the Pink Bollworm 475

BARTLETT, F. J., see D. W. WOODHAM 283

BASS, MAX H., see E. E. BARNES 581

BATISTE, WILLIAM C., and ARTHUR BERLOWITZ—Codling Moth and Pear Psylla: Evaluation of Insecticides for Control on Pears in California .. 1139

BATISTE, WILLIAM C., and WILLIAM H. OLSON—Codling Moth: Mass Production in Controlled-Environment Rearing Units 383

BATISTE, WILLIAM C., and WILLIAM H. OLSON—Laboratory Evaluations of Some Solanaceous Plants as Possible Hosts for Tomato Pinworm .. 109

BATISTE, WILLIAM C., WILLIAM H. OLSON, and ARTHUR BERLOWITZ—Codling Moth: Influence of Temperature and Daylight Intensity on Periodicity of Daily Flight in the Field 883

BATTH, SURAT S.—House Fly: Non-Repellancy of Dichlorvos Vapors 1006

BATTH, SURAT S., J. SINGH, and D. C. VILLENEUVE—Dichlorvos Vaporizers: Method for Evaluation Under Simulated Household Use ... 146

BAUERLE, W. L., see H. R. KRUEGER 573

BEADLES, M. L., R. O. DRUMMOND, and T. M. WHETSTONE—Tropical Horse Tick: Effects of Solvents on Oviposition 125

BEADLES, M. L., T. M. WHETSTONE, and R. O. DRUMMOND—Gulf Coast Tick: Susceptibility of Engorged Nymphs to Chlorpyrifos During the Postengorgement Period 1095

BEDFORD, G. O.—Comparison of Two Attractant Types for Coconut Rhinoceros Beetles in New Guinea 1216

BEEGLE, C. C., L. P. PEDIGO, F. L. POSTON, and J. D. STONE—Field Effectiveness of the Granulosis Virus of the Green Cloverworm as Compared with *Bacillus thuringiensis* and Selected Chemical Insecticides on Soybean 1137

BELAND, G. L., F. A. HASKINS, G. R. MANGLITZ, and H. J. GORZ—Sweetclover Weevil: Adenosine as a Feeding Stimulant 1037

BENNER, J. C. JR., see E. R. MITCHELL 1232

BENNETT, G. W., see R. C. HALL 315

BENNETT, S. E., see N. B. SHAMIYEH 998

BENSCHOTER, C. A., and M. P. LEAL—Rearing the Cotton Leafperforator in the Laboratory . 1333

BENSKIN, JAMES, and S. BRADLEIGH VINSON—Factors Affecting Juvenile Hormone Analogue Activity in the Tobacco Budworm 15

BERG, M. A., see L. E. WALLACE 1121

BERLOWITZ, ARTHUR, see WILLIAM C. BATISTE 883, 1139

BEROZA, MORTON, see M. C. BOWMAN 301

BEROZA, MORTON, see T. L. LADD, JR. 369

BEROZA, MORTON, see P. A. MADDISON 591

BEROZA, MORTON see TERRENCE P. MCGOVERN. 1103

BEROZA, MORTON, see ROBERT T. STATEN 1263

BEROZA, MORTON, C. R. GENTRY, JOHN L. BLYTHE, and G. M. MUSCHIK—Isomer Content and Other Factors Influencing Captures of Oriental Fruit Moth by Synthetic Pheromone Traps 1307

BEROZA, MORTON, A. A. PUNJABI, and B. A. BIERL—Disparlure and Analogues as Attractants for *Lymantria obfuscata* 1215

BERRY, E. C., see L. C. LEWIS 1315

BERRY, I. L.—Improved System for Measuring Flying Activity of Insects by Detecting Static Charges 820

BERRY, RALPH E., see ROBERT G. SIMPSON 291

BERRY, W. L., see M. W. STIMMANN 324

BHATIA, S. K., W. R. YOUNG, K. G. PHADKE, and A. N. SRIVASTAVA—Control of Corn Leaf Aphid on Barley in India 463

BHATNAGAR-THOMAS, PREM LATA—Control of Insect Pests of Stored Grains Using a Juvenile Hormone Analogue 277

BICKLEY, WILLIAM E., see WILLIAM THOMAS HOLLAWAY 164

BIEBER, L. L., see F. SCHROEDER 1231

BIERL, B. A., see MORTON BEROZA 1215

BIERL, BARBARA A., see ROBERT T. STATEN 1263

BINGHAM, R. G., see HILARY F. GOONEWARDENE 396, 1356

BISHOP, E. J., T. J. HELMS, and K. A. LUDWIG—Control of Bagworm with *Bacillus thuringiensis* 675

BLICKENSTAFF, C. C.—Grasshoppers: Effect of CO_2 Anesthesia 538

BLICKENSTAFF, C. C., and F. T. COWAN—JOHN ROBERT PARKER (1884–1972) (Obit.) 588

BLISS, M., JR., W. G. YENDOL, and W. H. KEARBY—Probing Behavior of *Eulachnus agilis* and Injury to Scotch Pine 651

BLYTHE, JOHN L., see MORTON BEROZA 1307

BOBB, MARVIN, L.—Importance of *p*H of Sprays on European Red Mite Populations 1000

BOBB, M. L., J. A. WEIDHAAS, JR., and L. F. PONTON—White Peach Scale: Life History and Control Studies 1290

BODE, W. M., DEAN ASQUITH, and J. P. TEETE—Sex Attractants and Traps for Tufted Apple Budmoth and Redbanded Leafroller Males 1129

BOLDT, P. E., see J. C. PETERS 104

BOLES, HOBART P., and RALPH L. ERNST—Reactions of the Rice Weevil to Newly Developed Wheat Products 447

BOLING, J. C., see MICHAEL F. SCHUSTER 999

BOND, E. J., see C. T. BUCKLAND 992

BOŘKOVEC, A. B., see S. C. CHANG 23

BOŘKOVEC, A. B., see A. B. DEMILO 1007

BOŘKOVEC, A. B., see RICHARD L. FYE 38

BOŘKOVEC, ALEXEJ B., see HORATIO C. MASON ... 159

BORTON, R., see HILARY F. GOONEWARDENE 396

BOSWELL, A. L., see W. F. WALKER 549

BOTTRELL, D. G., see J. R. CATE, JR. 945, 953

BOTTRELL, D. G., R. D. BRIGHAM, and L. B. JORDAN—Carrot Beetle: Pest Status and Bionomics on Cultivated Sunflower 86

BOTTRELL, D. G., L. J. WADE, and D. L. BRUCE—Boll Weevils Fail to Develop Resistance to Malathion After Several Years of Heavy Exposure in Texas High Plains 791

BOWLING, C. C.—Procedure for Screening Rice

Varieties for Resistance to the Rice Water Weevil ... 572
BOWMAN, M. C., see D. B. LEUCK ... 798
BOWMAN, M. C., see J. A. SEAWRIGHT ... 305, 613
BOWMAN, MALCOLM C., see JAMES E. WRIGHT ... 707
BOWMAN, M. C., J. E. WRIGHT, and MORTON BEROZA—Determination of Two Juvenile Hormone-Active Compounds and Their Stability in Stable Fly Medium ... 301
BOYD, F. J., JR., and J. R. BRAZZEL—Ultra-Low-Volume Insecticide Trials for Diapause Boll Weevil Control ... 498
BOYD, F. J., JR., J. R. BRAZZEL, W. F. HELMS, R. J. MORITZ, and R. R. EDWARDS—Spring Destruction of Overwintered Boll Weevils in West Texas with Wing Traps ... 507
BOYD, F. J., JR., R. R. EDWARDS, W. F. HELMS, and J. R. BRAZZEL—Large-Scale Field Trial Using a Combination of Aldicarb and Wing Traps to Suppress Boll Weevil Populations ... 492
BRADY, U. EUGENE, see HELEN C. F. SU ... 845
BRANSON, TERRY F., and ROBERTA D. JOHNSON—Adult Western Corn Rootworms: Oviposition, Fecundity, and Longevity in the Laboratory ... 417
BRATTSTEN, L. B., and R. L. METCALF—Synergism of Carbaryl Toxicity in Natural Insect Populations ... 1347
BRAZZEL, J. R., see F. J. BOYD, JR. ... 492, 498, 507
BREWER, J. W.—Control of the Elm Leaf Beetle in Colorado ... 162
BRIGHAM, R. D., see D. G. BOTTRELL ... 86
BROOK, TED S., see FRANK D. TIMMONS ... 151
BROOKS, J. L., see D. W. FUNK ... 259
BROWER, JOHN H.—Depressed Flour Beetle: Sensitivity to Gamma Irradiation ... 1318
BROWER, JOHN H.—Gamma Radiation Sensitivity of Malathion-Resistant Strains of the Indian Meal Moth ... 461
BROWER, JOHN H.—Sensitivity of *Tenebrio molitor* and *T. obscurus* to Gamma Irradiation ... 1175
BROWER, JOHN H., see ROBERT R. COGBURN ... 745
BROWER, JOHN H., see ELVIN W. TILTON ... 545
BROWN, R. T., see J. E. OLIVER ... 796
BROWN, SHIRLEY A., see ROY E. BRY ... 546
BRUCE, D. L., see D. G. BOTTRELL ... 791
BRY, ROY E., JOE H. LANG, and SHIRLEY A. BROWN—Protection of Woolen Carpeting Against Black Carpet Beetle Larval Damage: Investigation of Six Compounds ... 546
BUCKLAND, C. T., and E. J. BOND—Method of Applying Methyl Bromide to Small Fumigation Chambers ... 992
BULL, D. L., R. L. RIDGWAY, W. E. BUXKEMPER, M. SCHWARZ, T. P. MCGOVERN, and R. SARMIENTO—Effects of Synthetic Juvenile Hormone Analogues on Certain Injurious and Beneficial Arthropods Associated with Cotton ... 623
BULLOCK, R. C.—Toxicity of Selected Insecticides to the Restless Bush Cricket, a Minor Pest of Citrus in Florida ... 559
BURGESS, E. E., see E. A. HEINRICHS ... 1240
BURIFF, C. R., and G. W. STILL—Black Cherry Fruit Fly: Bait Spray for Control ... 1350
BURIFF, C. R., and G. W. STILL—Sex Attractiveness of Adult Female Elder Shoot Borers Used as Lures in Traps ... 814
BURKHARDT, C. C., see RABINDER KUMAR ... 181
BURKHOLDER, WENDELL E.—Black Carpet Beetle: Reduction of Mating by Megatomoic Acid, the Sex Pheromone ... 1327
BURNSIDE, JAMES A., and T. T. Y. WONG—Lesser Peachtree Borer: A Method of Extracting Pupae from Rearing Trays ... 247
BURRAGE, R. H., see J. G. SAHA ... 1125
BUTLER, LINDA, see D. W. FUNK ... 259
BUTT, B. A., see D. O. HATHAWAY ... 390
BUXKEMPER, W. E., see D. L. BULL ... 623

C

CADE, S. C., see J. D. WALSTAD ... 1219
CAGLE, A., see H. H. VARDELL ... 761, 800, 1209
CAGLE, AKLEE, see HENRY H. VARDELL ... 225
CAIL, R. S., see H. H. VARDELL ... 761
CALCOTE, V. R., and C. R. GENTRY—Mating Behavior of Fall Webworms and Attraction of Male Moths to Traps Baited with Virgin Females ... 1006
CAMERON, E. ALAN, R. L. CAMPBELL, and L. E. ADAMS—Insecticidal Control of *Adelges abietis* in Pennsylvania ... 811
CAMPBELL, FRANK L.,—ALVAH PETERSON (Obit.). 1243
CAMPBELL, FRANK L.—WILLIAM MOORE (1887–1972) (Obit.) ... 1009
CAMPBELL, J. B., WALTER WOODS, A. F. HAGEN, and E. C. HOWE—Cattle Grub Insecticide Efficacy and Effects on Weight-Gain Performance on Feeder Calves in Nebraska ... 429
CAMPBELL, R. L., see E. ALAN CAMERON ... 811
CANFIELD, R. T., see T. L. LADD, JR. ... 1047
CANTELO, W. W., see H. M. GRAHAM ... 266
CANTU, ELUID, and DAN A. WOLFENBARGER—New Compounds Showing Selective Activity Against the Tobacco Budworm and Other Lepidopteran Species, the Boll Weevil, and the Twospotted Spider Mite ... 527
CANTWELL, GEORGE E., see ROSS A. NIELSEN ... 37
CARLSON, DAVID A., N. SMITH, H. K. GOUCK, and D. R. GODWIN—Yellowfever Mosquitoes: Compounds Related to Lactic Acid that Attract Females ... 329
CARLSON, ELMER C.—Cabbage and Turnip Aphids and Their Control and Damage on Rape and Mustard ... 1303
CARRANZA, R. L., see R. E. FYE ... 657
CARRUTH, LAURENCE A., and LEON MOORE—Cotton Scouting and Pesticide Use in Eastern Arizona ... 187
CASSIDY, JOSEPH D., O.P., and DANIEL S. GROSCH—Quantitative Effects of Purine Analogue Ingestion on Reproduction of *Habrobracon juglandis* ... 319
CATE, J. R., JR., D. G. BOTTRELL, and G. L. TEETES—Management of the Greenbug on Grain Sorghum. 1. Testing Foliar Treatments of Insecticides Against Greenbugs and Corn Leaf Aphids ... 945
CATE, J. R., JR., D. G. BOTTRELL, and G. L. TEETES—Management of the Greenbug on Grain Sorghum 2. Testing Seed and Soil Treatments for Greenbug and Corn Leaf Aphid Control ... 953
CHALFANT, RICHARD B.—Cabbage Looper: Effect of Temperature on Toxicity of Insecticides in the Laboratory ... 339
CHALFANT, RICHARD B.—Cowpea Curculio: Control in Southern Georgia ... 727

CHALFANT, R. B., and T. P. GAINES—Cowpea Curculio: Correlations Between Chemical Composition of the Southern Pea and Varietal Resistance 1011
CHALFANT, RICHARD B., W. G. GENUNG, and R. B. WORKMAN—Control of the Cabbage Looper in Florida and Georgia 276
CHAMBERLAIN, W. F., and D. E. HOPKINS—Metabolism of ^{14}C-Labeled Stauffer R-3828 by a Steer 119
CHAMBERLAIN, W. F., D. E. HOPKINS, and A. R. GINGRICH—Cattle Biting Louse: Evaluation of Compounds for Juvenile Hormone Activity .. 127
CHAMBERLAIN, W. F., D. E. HOPKINS, and MEYER SCHWARZ—Cattle Biting Louse: Evaluation of Compounds for Juvenile Hormone Activity. 2. Hormonal and Toxic Effects 703
CHAMBERS, DERRELL L., see IRVING KEISER ... 1355
CHAMBERS, D. L., see R. M. KOBAYASHI 792
CHAMBERS, D. L., see S. NAKAGAWA 583
CHAMBERS, D. L., see K. OHINATA 812
CHAMBERS, D. L., see W. J. SCHROEDER 661, 1261
CHAMBERS, D. L., see S. T. SEO 522, 937
CHAMBERS, DERRELL L., see IRVING KEISER 112
CHAMBERS, H. W., see F. A. HARRIS 517
CHANG, S. C., A. B. BOŘKOVEC, C. W. WOODS, and P. H. TERRY—Chemosterilization of Male House Flies by Fumigation 23
CHAPMAN, R. KEITH, and C. J. ECKENRODE—Effect of Insecticide Placement on Predator Numbers and Cabbage Maggot Control 1153
CHARNETSKI, W. A., and E. P. LICHTENSTEIN—Penetration and Translocation of ^{14}C-Lindane in Pea Plants 344
CHARPENTIER, LEON J., R. D. JACKSON, and W. J. MCCORMICK—Sugarcane Borer: Control by Delta-Endotoxin of *Bacillus thuringiensis*, HD-1, in Field Tests 249
CHAUDHURY, M. F. B., see HAROLD J. BALL 1051
CHAWLA, S. S., J. M. PERRON, and L. HUOT—Potato Aphid: Effects of Five Chemosterilants. 963
CHAWLA, S. S., J. M. PERRON, L. HUOT, and G. W. CORRIVAULT—Sensitivity of *Oryzaephilus surinamensis* to Cesium-137. II. Irradiation of Larvae, Pupae, and Adults 605
CHEATHAM, J. S., see M. R. SPARKS 719
CHIANG, H. C., ROBERT LATHAM, and MERLE P. MEYER—Aerial Photography: Use in Detecting Simulated Insect Defoliation in Corn 779
CHILDRESS, DINAH, and PHLETUS P. WILLIAMS—Control of a Bacterial Contaminant of Boll Weevil Diet 554
CHIPPENDALE, G. M., and G. P. V. REDDY—Hypocholesterolemic Agents and Developmental Suppression of the Southwestern Corn Borer 1336
CLARK, E. W.—*Hylobius pales*: A Meridic Larval Diet Using Sitosterol 841
CLARK, J. D., and C. E. CURTIS—A Battery-Powered Light Trap Giving Two Years' Continuous Operation 393
CLARK, P. H., see M. M. COLE 118
CLEERE, J. S., see R. J. KUHR 1019
CLINE, RICHARD E., and MYRNA H. HALL—Larvicidal Activities of N,N'-Dialkylalkylenediamines and Other Fatty Diamines in Oil Films and Water Dispersions 697
COCHRAN, DONALD G.—Inheritance and Linkage of Pyrethrins Resistance in the German Cockroach 27
COCHRAN, D. G., see W. R. JONES 1252
COE, NANCY, F., see D. E. PINNOCK 194
COFFELT, J. A., see L. L. SOWER 1220
COGBURN, ROBERT R., ELVIN W. TILTON, and JOHN H. BROWER—Almond Moth: Gamma Radiation Effects on the Life Stages 745
COHEN, SAMUEL H., JOHN A. SOUSA, and JOSEPH F. ROACH—Effects of UV Irradiation on Nymphs of Five Species of Cockroaches 859
COLBURN, RICHARD, and DEAN ASQUITH—*Platynota idaeusalis*: Toxicity of Some Insecticides to Larvae 991
COLBURN, RICHARD, and DEAN ASQUITH—Tolerance of *Stethorus punctum* Adults and Larvae to Various Pesticides 961
COLE, C. L., P. L. ADKISSON, and R. E. FYE—Seasonal Abundance of *Heliothis* Larvae on Cotton in the Presidio, Texas, Area 524
COLE, M. M., P. H. CLARK, F. WASHINGTON, W. ELLERBE, and D. L. VANNATTA—Resistance to Malathion in a Strain of Body Lice from Burundi 118
COLLINS, W. J.—German Cockroach Resistance. 1. Resistance to Diazinon Includes Cross-Resistance to DDT, Pyrethrins, and Propoxur in a Laboratory Colony 44
COOPER, E., see H. H. VARDELL 800, 1209
CORRIVAULT, G. W., see S. S. CHAWLA 605
COULSON, ROBERT N., FORREST LEE OLIVERIA, THOMAS L. PAYNE, and MARK W. HOUSEWEART—Variables Associated with Use of Frontalure and Cacodylic Acid in Suppression of the Southern Pine Beetle. 1. Factors Influencing Manipulation to Prescribed Trap Trees 893
COULSON, ROBERT N., FORREST LEE OLIVERIA, THOMAS L. PAYNE, and MARK W. HOUSEWEART—Variables Associated with Use of Frontalure and Cacodylic Acid in Suppression of the Southern Pine Beetle. 2. Brood Reduction in Trees Treated with Cacodylic Acid 897
COWAN, F. T., see C. C. BLICKENSTAFF (Obit.) ... 588
CREIGHTON, C. S., T. L. MCFADDEN, and E. R. CUTHBERT—Supplementary Data on Phenylacetaldehyde: an Attractant for Lepidoptera ... 114
CREIGHTON, C. S., T. L. MCFADDEN, and R. B. CUTHBERT—Tomato Fruitworm: Control in South Carolina with Chemical and Microbial Insecticides 1970–71 473
CROSS, W. H., see W. L. MCGOVERN 1332
CROSS, W. H., see H. C. MITCHELL 563, 677
CROSS, W. H., see WILLIAM L. MCGOVERN 809
CRYSTAL, MAXWELL M.—Chemosterilant-Induced Decrease in Size of Testes of the Adult Screwworm 424
CRYSTAL, MAXWELL M.—Toxicity of Some Herbicides to the Screwworm 529
CUNNINGHAM, J. R., see SIDNEY E. KUNZ 1239
CURTIS, C. E., see J. D. CLARK 393
CUTHBERT, E. R., see C. S. CREIGHTON 114
CUTHBERT, R. B., see C. S. CREIGHTON 473
CUTHBERT, ROY A., see JACK H. BARGER 79

D

DANIELSON, D., see C. J. ECKENRODE 1191
DARROW, D. I.—Biting Lice of Goats: Control

with Dichlorvos-Impregnated Resin Neck Collars ... 133
DAVIDSON, ALEXANDER, and DUDLEY E. PINNOCK—Assay of Ultra-Low-Volume Spray Deposits of the Nuclear Polyhedrosis Virus of *Heliothis zea* by Means of Fluorescent Antibody Labelling ... 586
DAVIS, FRANK M., see C. A. HENDERSON ... 1233
DAVIS, FRANK M., GENE E. SCOTT, and C. A. HENDERSON—Southwestern Corn Borer: Preliminary Screening of Corn Genotypes for Resistance ... 503
DAVIS, M. R., see W. G. HART ... 190
DAWSON, E. M., see H. C. MITCHELL ... 677
DAWSON, J. R., see JACK W. HAYNES ... 619
DAY, AUGUSTINE, see JEROME A. ONSAGER ... 403
DAY, AUGUSTINE, J. M. STANLEY, J. C. WEBB, and J. G. HARTSOCK—Southern Potato Wireworms: Light-Trap Catches of Adults in an Isolated Agricultural Area ... 757
DEAN, H. A., see MICHAEL F. SCHUSTER ... 467
DeLOACH, C. J., see J. C. PETERS ... 104
DeMILO, A. B., R. L. FYE, and A. B. BOŘKOVEC—Insect Chemosterilants. 14. Miscellaneous Compounds Effective in the House Fly ... 1007
DESMARCHELIER, JAMES, R. I. KRIEGER, PHILIP W. LEE, and T. R. FUKUTO—Carbaryl Synergism by Substituted 1,3-Benzodioxoles and Related Compounds and Inhibition of Mixed Function Oxidase ... 631
DIEKMAN, JOHN, see R. G. STRONG ... 1167
DOANE, CHARLES C., see DENNIS M. DUNBAR ... 983
DOANE, CHARLES C., and DENNIS M. DUNBAR—Field Evaluation of Insecticides Against the Gypsy Moth and the Elm Spanworm and Repellent Action of Chlorodimeform ... 1187
DOLLAR, A. M., see S. T. SEO ... 937
DOMINICK, C. B.—Tobacco Flea Beetle Overwintering and Spring Emergence in Cages ... 116
DOOLITTLE, R. E., see V. E. ADLER ... 33
DOOLITTLE, ROBERT E., see IRVING KEISER ... 112
DOROUGH, H. W., see B. C. PASS ... 1117
DRUMMOND, R. O., see M. L. BEADLES ... 125, 1095
DRUMMOND, R. O., and T. M. WHETSTONE—Lone Star Tick: Laboratory Tests of Acaricides ... 1274
DRUMMOND, R. O., S. E. ERNST, J. L. TREVINO, W. J. GLADNEY, and O. H. GRAHAM—*Boophilus annulatus* and *B. microplus*: Laboratory Tests of Insecticides ... 130
DUNBAR, DENNIS, M., see CHARLES C. DOANE ... 1187
DUNBAR, DENNIS, M., and CHARLES C. DOANE—Gypsy Moth and Elm Spanworm Suppression: Field Evaluation of Natural and Synthetic Pyrethroids ... 983
DUNNING, L. L., see E. C. LOOMIS ... 439
DUPNIK, TED, see THOMAS W. FUCHS ... 802
DUPRAS, EMIL F., JR., see CHARLES H. SCHAEFER ... 923
DURDEN, J. A., JR., see A. A. SOUSA ... 584

E

EARLE, NORMAN, see HOLLIS M. FLINT ... 47
EASON, G., see H. H. VARDELL ... 761
EASON, GERALD, see HENRY H. VARDELL ... 225
EASTWOOD, R. E., see E. F. LEGNER ... 685
EATON, JUDY, see HOLLIS M. FLINT ... 47
EBELING, WALTER—Dust Desiccants: Effect of Prolonged Exposure of Films on Insecticidal Efficacy ... 280
ECKENRODE, C. J.—Foliar Sprays for Control of the Aster Leafhopper on Carrots ... 265
ECKENRODE, C. J., see R. KEITH CHAPMAN ... 1153
ECKENRODE, C. J., N. L. GAUTHIER, D. DANIELSON, and D. R. WEBB—Seedcorn Maggot: Seed Treatments and Granule Furrow Applications for Protecting Beans and Sweet Corn ... 1191
EDWARDS, R. R., see F. J. BOYD, JR. ... 492, 507
EHLER, L. E.—Spider Mites Associated with Grain Sorghum and Corn in Texas ... 1220
ELLERBE, W., see M. M. COLE ... 118
ELLIS, C. R.—Parasitism of *Hypera postica* Eggs at Guelph, Ontario, by *Patasson luna* and *Fidiobia rugosifrons* ... 1059
EL-SEBAE, A. H., see M. I. ZEID ... 1293
ENNIK, FRANKLIN—Abatement of Yellowjackets Using Encapsulated Formulations of Diazinon and Rabon® ... 1097
ERDMAN, H. E.—Comparative Species Radiation Sensitivities of Flour Beetles to Chronic Gamma Radiation ... 251
ERDMAN, HOWARD E., see MELINDA L. KINKADE ... 967
ERNST, RALPH L., see HOBART P. BOLES ... 447
ERNST, S. E., see R. O. DRUMMOND ... 130
ESCHLE, J. L., see SIDNEY E. KUNZ ... 1239
ESCHLE, JAMES L., D. D. OEHLER, B. F. HOGAN, and M. C. IVEY—Coumaphos on Cable-Type Backrubbers: Control of Horn Flies and Determination of Residues in Milk of Dairy Cattle ... 290

F

FAHEY, J. E., see R. C. HALL ... 315
FAIRCHILD, M. L., see R. W. STRAUB ... 534, 989
FARIAS, G. J., see S. NAKAGAWA ... 583
FEESE, HARLAN, see GERALD WILDE ... 570
FIORI, B. J., G. R. FRYER, and M. McKOY—Trapping European Chafers: Sticky Plastic Sheeting vs. Blacklight Trap ... 1225
FLETCHER, BRIAN S., and ARETI GIANNAKAKIS—Sex Pheromone Production in Irradiated Males of *Dacus (Strumeta) tryoni* ... 62
FLETCHER, L. W., J. P. TURNER, and C. N. HUSMAN—Surface Temperature as a Factor in Selection of Ovipositional Sites by Three Strains of the Screwworm ... 422
FLINT, HOLLIS, M., NORMAN EARL, JUDY EATON, and WALDEMAR KLASSEN—Chemosterilization of the Female Boll Weevil ... 47
FORGASH, A. J., see T. L. LADD, JR. ... 1047
FORGASH, ANDREW J., see ALAN D. TOMLIN ... 6
FOWLER, RICHARD F., IMANTS MILLERS, and LOUIS F. WILSON—Aerial and Ground Applications of Malathion Control Redheaded Pine Sawfly ... 288
FRAZER, E. D., see R. L. HARRIS ... 1099
FREEMAN, KELLEY C., see C. A. HENDERSON ... 1233
FRYER, G. R., see B. J. FIORI ... 1225
FUCHS, THOMAS W., J. A. HARDING, and TED DUPNIK—Sugarcane Borer Control on Sugarcane in the Lower Rio Grande Valley of Texas with Aerially Applied Chemicals ... 802
FUHREMANN, T. W., see E. P. LICHTENSTEIN ... 863
FUHREMANN, T. W., see K. R. SCHULZ ... 873
FUJIMOTO, M., see S. T. SEO ... 522
FUJIMOTO, M. S., see K. OHINATA ... 812
FUKUTO, T. R., see JAMES DESMARCHELIER ... 631
FUNK, D. W., J. L. BROOKS, and LINDA BUTLER—

Nematode Associated with *Pseudopityophthorus pruinosus* 259
FYE, R. E.—Potential Mortality of Pink Bollworms Caused by Summer Thundershowers .. 531
FYE, R. E., see C. L. COLE 524
FYE, R. E., and R. L. CARRANZA—Cotton Pests: Overwintering of Three Lepidopterous Species in Arizona 657
FYE, R. E., and C. G. JACKSON—Overwintering of *Chelonus blackburni* in Arizona 807
FYE, R. L., see A. B. DEMILO 1007
FYE, RICHARD L., PHILIP B. MORGAN, and G. C. LABRECQUE—Evaluating Repellency of Chemosterilants to House Flies 354
FYE, RICHARD L., C. W. WOODS, A. B. BOŘKOVEC, and P. H. TERRY—Chemosterilants for the House Fly: Further Screening Tests 38

G

GADDY, NINA K., see DON W. MICKS 288
GAINES, T. P., see R. B. CHALFANT 1011
GAINES, T. P., see J. H. GIRARDEAU 470
GALACHTIOU, C. G., see G. E. HANIOTAKIS 55
GARCIA, J. A., see T. N. SHAVER 327
GARCIA, R. D., see A. A. GUERRA 833
GAUTHIER, N. L., see C. J. ECKENRODE 1191
GENTRY, C. R., see MORTON BEROZA 1307
GENTRY, C. R., see V. R. CALCOTE 1006
GENTRY, C. R., see C. E. YONCE 362
GENUNG, W. G., see RICHARD B. CHALFANT 276
GESELL, STANLEY G., ARTHUR A. HOWER, JR.—Garden Symphylan: Comparison of Row and Broadcast Application of Granular Insecticides for Control 822
GETZIN, L. W.—Suppression on Onion Thrips with Systemic-Insecticide Soil Treatments.... 975
GETZIN, L. W., see J. L. SAUNDERS 530
GIANNAKAKIS, ARETI, see BRIAN S. FLETCHER... 62
GIANNOTTI, O., and H. V ARRUDA—American Cockroaches: Joint Action of DDT and Ouabain on Adults 1228
GIBBENS, J., see R. L. JENSEN 269
GIBSON, KENNETH, E., and A. K. RAINA—First Record of *Bruchus lentis* Infesting Lentils in India 515
GIFFORD, J. R., see B. F. OLIVER 794
GILLENWATER, H. B., see H. H. VARDELL 761
GILLENWATER, HAGEN B., see HENRY H. VARDELL 225
GILLETTE, NANCY L., see JACQUELINE L. ROBERTSON 629
GINGRICH, A. R., see W. F. CHAMBERLAIN 127
GINGRICH, JOHN B.—Behavior and Survival of American Cockroaches Exposed to Different Ultraviolet and White Light Regimens 1143
GINGRICH, R. E.—*Hypoderma lineatum* in White Mice: Effects of Immunosuppressive Procedures on Survival and Growth of Larvae 432
GIRARDEAU, J. H., T. P. GAINES, and B. A. GOLDEN—Possible Causes of Differences in Tobacco Budworm Damage to Flue-Cured Tobacco Varieties 470
GLADNEY, W. J., see R. O. DRUMMOND 130
GLANCEY, B. M., see W. A. BANKS 785
GLANCEY, B. MICHAEL, see C. E. STRINGER, JR. .. 295
GLOVER, D., JR., see P. E. JAMES 245
GODWIN, D. R., see DAVID A. CARLSON 329
GOLDEN, B. A., see J. H. GIRARDEAU 470
GOODENOUGH, JOHN L., see D. G. HAILE 739
GOODENOUGH, JOHN L., and J. WENDELL SNOW—Increased Collection of Tobacco Budworm by Electric Grid Traps as Compared with Blacklight and Sticky Traps 450
GOODENOUGH, JOHN L., and J. WENDELL SNOW—Tobacco Budworms: Nocturnal Activity of Adult Males as Indexed by Attraction to Live Virgin Females in Electric Grid Traps 543
GOONEWARDENE, HILARY F., R. G. BINGHAM, and B. G. TOWNSHEND—Pattern of Emergence of Adult Japanese Beetles from Laboratory Cultures 1356
GOONEWARDENE, HILARY F., B. G. TOWNSHEND, R. G. BINGHAM, and R. BORTON—Improved Technique for Field Use of Female Japanese Beetles as Lures 396
GORDON, C. H., see R. W. MILLER 135
GORZ, H. J., see G. L. BELAND 1037
GOUCK, H. K., see DAVID A. CARLSON 329
GOYER, RICHARD A.—Gypsy Moth: Toxicity of Five Systemic Insecticides to Larvae Reared on an Artificial Diet 544
GRAHAM, H. M., see D. A. WOLFENBARGER 211
GRAHAM, H. M., and W. W. CANTELO—Populations of the Pink Bollworm on St. Croix, U. S. Virgin Islands 266
GRAHAM, O. H., see R. O. DRUMMOND 130
GRAHAM, P. P., see W. R. JONES 1252
GRANETT, J.—A Disparlure-Baited Box Trap for Capturing Large Numbers of Gypsy Moths .. 359
GRANETT, J.—Sex Attractant Pheromone Activity of the Elm Spanworm 808
GRASSL, RICHARD F., and CARL A. JOHANSEN—Insecticidal Baits Tested for Controlling *Trogoderma variabile* and *Tribolium audax* in Nests of Alfalfa Leafcutting Bees 454
GRAVES, J. B., see T. E. REAGAN 576, 1113
GREEN, N., see V. STANIC 261
GREEN, NATHAN, see SHLOMO NEUMARK 1349
GRIFFIN, J. G., and O. H. LINDIG—Ultraviolet Lamp Pass-Through Cabinet Use in Boll Weevil Mass-Rearing Facility 1063
GROSCH, DANIEL, S., see JOSEPH D. CASSIDY, O.P. 319
GROW, R. R., J. E. LLOYD, and R. KUMAR—An Economical CO_2-Powered Insecticide Sprayer for Small Experimental Plots 252
GUERRA, A. A., see DAN A. WOLFENBARGER ... 1067
GUERRA, A. A., D. A. WOLFENBARGER, and R. D. GARCIA—Activity of Juvenile Hormone Analogues Against the Tobacco Budworm 833
GUERRANT, G. O., see D. R. MADDOCK 689
GUEST, RICHARD T., see HORATIO C. MASON ... 753
GULDNER, CLARENCE D., JR., see HUGH E. THOMPSON 997
GUSS, P. L., and J. L. KRYSAN—Maintenance of the Southern Corn Rootworm on a Dry Diet . 352
GUTHRIE, W. D., see Y. S. RATHORE 1195

H

HABECK, D. H., see L. E. MACCARTER 1111
HAGEL, G. T., B. J. LANDIS, and M. C. AHRENS—Aster Leafhopper: Source of Infestation, Host Plant Preference, and Dispersal 877
HAGEN, A. F., see J. B. CAMPBELL 429
HAILE, D. G., J. WENDELL SNOW, and JOHN L. GOODENOUGH—Reduced Capture of Tobacco

Budworm and Corn Earworm Males in Electric Grid Traps Baited Simultaneously with Virgin Females of Both Species 739
HALFHILL, J. E., see T. L. TREAT 569
HALFHILL, JOHN ERIC, and JAY C. MAITLEN—Residues of Aldicarb in Fresh and Dried Alfalfa 557
HALL, MYRNA H., see RICHARD E. CLINE 697
HALL, R. C., D. L. BALLEE, G. W. BENNETT, and J. E. FAHEY—Persistence and Distribution of Gardona and Dichlorvos in Grain and Grain Products 315
HAMILTON, D. W., see T. L. LADD, JR. 294
HAMLEN, RONALD A., see WILLIAM G. YENDOL . 183
HANAOKA, M., see S. T. SEO 937
HANIOTAKIS, G. E., and C. G. GALACHTIOU—Metepa Sterilization of the Olive Fruit Fly ... 55
HANNA, MOHEEB A., and Y. H. ATALLAH—Computation of Decrease or Increase in Filial Generations Following Insecticidal Treatment of *Spodoptera littoralis* 589
HANNIBAL, R. M., see R. K. SHARMA 377
HARDEE, D. D., see E. B. MITCHELL 1230
HARDING, J. A., see THOMAS W. FUCHS 802
HARDING, JAMES A.—Green Peach Aphid: Field Trials with Newer Insecticides on Cabbage and Spinach 459
HARDING, JAMES A.—*Heliothis* spp.: Regrowth Cotton in the Lower Rio Grande Valley Related to Overwintering 515
HARE, W. W., see E. A. HARRELL 1211, 1340
HARE, W. W., E. A. HARRELL, and W. D. PERKINS—Corn Earworm Eggs: Effects of Heat on Hatch 285
HARE, W. W., E. A. HARRELL, and W. D. PERKINS—Moisture Removed from Rearing Cells During Incubation of Corn Earworm on an Artificial Diet 284
HARPER, A. M.—English Grain Aphid: Effect of Yield of Wheat in Alberta 1326
HARPER, JAMES D., see COSTAS A. KOUSKOLEKAS 1159
HARRELL, E. A., see W. W. HARE 284, 285
HARRELL, E. A., W. W. HARE, and J. R. YOUNG—Mixing Pesticide with Water Concurrently with Spraying 1211
HARRELL, E. A., A. N. SPARKS, W. D. PERKINS, and W. W. HARE—An Insect Diet Filler for an Inline Form-Fill-Seal Machine 1340
HARRIS, C. R.—Laboratory Evaluation of Candidate Materials as Potential Soil Insecticides. IV 216
HARRIS, C. R., and H. J. SVEC—Toxicological Studies on Cutworms. XI. Laboratory and Field Microplot Studies on the Effectiveness of Some Experimental Insecticides in Controlling the Redbacked Cutworm in Organic Soil 444
HARRIS, C. R., H. J. SVEC, and W. W. SANS—Toxicological Studies on Cutworms. IX. Laboratory and Microplot Field Studies on Effectiveness and Persistence of Some Experimental Insecticides Used for Control of the Darksided Cutworm 199
HARRIS, C. R., H. J. SVEC, and W. W. SANS—Toxicological Studies on Cutworms. X. Laboratory and Field Microplot Studies on Effectiveness and Persistence of Some Experimental Insecticides Used to Control the Black Cutworm in Organic Soil 203
HARRIS, E. J., see W. J. SCHROEDER 1342
HARRIS, ERNEST J., see IRVING KEISER 1355
HARRIS, F. A., see B. M. HINES 1071
HARRIS, F. A., see FRANK D. TIMMONS 151
HARRIS, F. A., and H. W. CHAMBERS—Interaction of Insecticidal Mixtures in Tobacco Budworm 517
HARRIS, H. M., see B. H. WILSON 1346
HARRIS, R. L., E. D. FRAZER, and R. L. YOUNGER—Horn Flies, Stable Flies, and House Flies: Development in Feces of Bovines Treated Orally with Juvenile Hormone Analogues 1099
HART, J. B., JR., see J. D. WALSTAD 1219
HART, W. G., S. J. INGLE, M. R. DAVIS, and C. MANGUM—Aerial Photography with Infrared Color Film as a Method of Surveying for Citrus Blackfly 190
HARTMAN, MARGARET J.—House Crickets: Ovicidal Effect of Fenthion on Mortality and Cholinesterase Activity 1029
HARTSOCK, J. G., see AUGUSTINE DAY 757
HARWALKAR, M. R., see JACK W. HAYNES 1338
HARWALKAR, M. R., and G. W. RAHALKAR—Sperm Utilization in the Female Red Cotton Bug 805
HASKINS, F. A., see G. L. BELAND 1037
HATHAWAY, D. O., see H. R. MOFFITT 374
HATHAWAY, D. O., L. V. LYDIN, B. A. BUTT, and L. J. MORTON—Monitoring Mass Rearing of the Codling Moth 390
HAYNES, JACK W., M. R. HARWALKAR, and NORMAN MITLIN—Quantitative Studies of Busulfan-Treated Diet Necessary to Sterilize the Male Boll Weevil 1338
HAYNES, JACK W., N. MITLIN, C. E. SLOAN, and J. R. DAWSON—Busulfan: Development of Improved Methods of Sterilizing Boll Weevils . 619
HEAD, ROBERT B., and W. W. NEEL—The Cottonwood Leaf Beetle: Observations on the Biology and Reproductive Potential in Mississippi 1327
HEINRICHS, E. A., E. E. BURGESS, and ELLIS L. MATHENY, JR.—Control of Leaf-Feeding Insects on Yellow-Poplar 1240
HELMS, T. J., see E. J. BISHOP 675
HELMS, W. F., see F. J. BOYD, JR. 492, 507
HENDERSON, C. A., see FRANK M. DAVIS 503
HENDERSON, C. A., KELLY C. FREEMAN, and FRANK M. DAVIS—Chemical Control of Lesser Cornstalk Borer in Sweet Sorghum 1233
HENDRICKS, D. E., and M. P. LEAL—Catch of Adult Tobacco Budworms Influenced by Height of Sex-Lure Traps 1218
HENSLEY, S. D., see T. E. REAGAN 576, 1113
HERRICK, R. B., see MARTIN SHERMAN 139
HERZOG, N. S., see G. R. PESHO 456
HICKS, D. M., see W. A. BANKS 241
HIGHLAND, HENRY A., and PATRICK H. MERRITT—Synthetic Pyrethorids as Package Treatments to Prevent Insect Penetration 540
HILL, W. BRUCE, see ROGER D. AKRE 803
HILL, WM. BRUCE, see ROGER D. AKRE 903
HILLMAN, R. C., see C. G. WRIGHT 1075
HINES, B. M., F. A. HARRIS, and NORMAN MITLIN—*Heliothis virescens*: Assimilation and Retention of Radioactivity in Eggs and Larvae from ^{32}P-Treated Adults 1071

HIRANO, SEIJI, TAKAO SAGAWA, HIRONOBU TAKAHASHI, NOBUHIKO TANAKA, HIDEO OISHI, KUNIO ANDO, and KUNIHIKO TOGASHI—Tetranactin, a New Miticidal Antibiotic. IV. Some Properties of Tetranactin 349
HITCHCOCK, J. D., and W. T. WILSON—Pathogenicity to Honey Bees of a Strain of *Bacillus* larvae That Does Not Reduce Nitrate 901
HOGAN, B. F., see JAMES L. ESCHLE 290
HOGAN, B. F., see H. D. MANN 715
HOLLAWAY, WILLIAM THOMAS, WILLIAM E. BICKLEY, and JOHN W. NEAL, JR.—Rearing and Release of *Microctonus aethiops*, a Parasite of the Alfalfa Weevil, in Maryland 164
HOLLINGSWORTH, J. P., see P. E. JAMES 245
HOPKINS, A. R., see H. M. TAFT 254
HOPKINS, D. E., see W. F. CHAMBERLAIN. ..119, 127, 703
HORÁK, E., see E. ŽDÁRKOVÁ 1237
HORNSBY, R. P., see N. B. SHAMIYEH 998
HOUSEWEART, MARK W., see ROBERT N. COULSON 893, 897
HOWE, E. C., see J. B. CAMPBELL 429
HOWELL, G. R., see C. E. ROGERS 827
HOWER, ARTHUR A., JR., see STANLEY G. GESELL 822
HSIEH, FENG-KUO, and ROBERT L. PIENKOWSKI—Alfalfa Weevil: Influence of Apholate on Reproduction in the Laboratory 1023
HUDDLESTON, P. M., see E. B. MITCHELL 1230
HULL, LARRY A., see DEAN ASQUITH 1197
HUNT, RICHARD, see H. BRENTON TEILLON 208
HUNTER, PRESTON E., see CHETTACHAI BANDITSING 82
HUOT, L., see S. S. CHAWLA 605, 963
HURST, G. A., see P. G. KULKARNI 341
HUSMAN, C. N., see L. W. FLETCHER 422
HUTT, R. B., see L. D. WHITE 558
HUTT, R. B., and L. D. WHITE—Recovery of Fertility in Male Codling Moths Treated with 38 Krad of Gamma Irradiation 388
HWANG, YIH-SHEN, see MIR S. MULLA 1089
HWANG, YIH-SHEN, and MIR S. MULLA—Attractants for Synanthropic Flies. 1. Some Physico-Chemical Factors as Related to the Potency of *Hippelates* Eye Gnat Attractants .. 1055
HWANG, YIH-SHEN, and MIR S. MULLA—Attractants for Synanthropic Flies. 5. Isolation and Attractancy of *Hippelates* Eye Gnat Attractants 1339
HYER, ANGUS H., see WARD M. TINGEY 1312

I

IGNOFFO, C. M., see J. D. WILKINSON 643
IKAN, R., see V. STANIĆ 261
INGLE, S. J., see W. G. HART 190
IVEY, M. C., see JAMES L. ESCHLE 290
IVEY, M. C., see H. D. MANN 715

J

JACKSON, C. G., see R. E. FYE 807
JACKSON, R. D., see LEON J. CHARPENTIER 249
JACOBSON, M., see V. E. ADLER 33
JACOBSON, M., see K. OHINATA 812
JACOBSON, M., see V. STANIĆ 261
JACOBSON, MARTIN, see IRVING KEISER 1355
JAKOB, W. L.—Insect Development Inhibitors: Tests with House Fly Larvae 819
JAMES, M. T., and H. S. TELFORD—HAROLD RODNEY DODGE (1913–1973) (Obit.) 1358
JAMES, P. E., J. P. HOLLINGSWORTH, L. G. SCHOENLEBER, and D. GLOVER, JR.—A Mobile Facility for Rearing Insects 245
JAMES, W., see H. M. TAFT 254
JAMNBACK, HUGO—DONALD LOUIS COLLINS (1908–1973) (Obit.) 1359
JANES, M. J.—Corn Earworm and Fall Armyworm Occurrence and Control on Sweet Corn Ears in South Florida 973
JENKINS, JOHNIE N., see WILLIAM L. PARROTT ... 222
JENSEN, F. L., see M. T. ALINIAZEE 157
JENSEN, R. L., and J. GIBBENS—Rearing the Southern Green Stink Bug on an Artificial Diet 269
JOHANSEN, CARL A., see RICHARD F. GRASSL ... 454
JOHNSON, H. E., see C. G. WRIGHT 1277
JOHNSON, JERRY W., see GEORGE L. TEETES ... 1181
JOHNSON, ROBERTA D., see TERRY F. BRANSON . 417
JOHNSON, W. L., see W. L. MCGOVERN 1332
JONES, P. A., and B. H. KANTACK—Grasshopper Control Tests in South Dakota, 1966–67 987
JONES, R. D., see J. L. ZETTLER 1049
JONES, W. R., D. G. COCHRAN, P. P. GRAHAM, and R. F. KELLY—Growth and Development of the Cheese Skipper Under Sterile, Unsterile, and Sterile-Inoculated Conditions 1252
JORDAN, L. B., see D. G. BOTTRELL 86
JOUVENAZ, D. P., see W. A. BANKS 241, 785
JUBB, G. L., JR.—Catches of *Episimus argutanus* in Grape Berry Moth Sex-Pheromone Traps in Pennsylvania 1345

K

KAISER, WALTER J., and JAMES M. SCHALK—Pea Leaf Roll Virus: Transmission by Aphids to Pulse Crops in Iran 1331
KAMAKAHI, D., see S. T. SEO 522
KAMAKAHI, D. C., see K. OHINATA 812
KANTACK, B. H., see P. A. JONES 987
KARPEL, MARY-ANN—Effects of Trichlorfon and Carbaryl on Gypsy Moth, Elm Spanworm, and Related Insect Populations in Pound Ridge, New York 271
KEARBY, W. H., see M. BLISS, JR. 651
KEASTER, A. J., see R. W. STRAUB 534, 989
KEGG, JOHN D.—Oak Mortality Caused by Repeated Gypsy Moth Defoliations in New Jersey 639
KEGG, JOHN D.—Sampling Techniques for Evaluating Effectiveness of Insecticidal Treatments in Controlling Gypsy Moth 1357
KEHR, W. R., see S. D. KINDLER 1298
KEISER, IRVING, RICHARD M. KOBAYASHI, ESTHER L. SCHNEIDER, and ISAO TOMIKAWA—Laboratory Assessment of 73 Insecticides Against the Oriental Fruit Fly, Melon Fly, and Mediterranean Fruit Fly 837
KEISER, IRVING, SUSUMU NAKAGAWA, RICHARD M. KOBAYASHI, DERRELL L. CHAMBERS, TADAO URAGO, and ROBERT E. DOOLITTLE—Attractiveness of Cue-Lure and the Degradation Produce 4-(*p*-Hydroxyphenyl)-2-Butanone to Male Melon Flies in the Field in Hawaii 112
KEISER, IRVING, RICHARD M. KOBAYASHI, DORIS H. MIYASHITA, MARTIN JACOBSON, ERNEST J. HARRIS, and DERRELL L. CHAMBERS

—*trans*-6-Nonen-1-ol Acetate: An Ovipositional Attractant and Stimulant of the Melon Fly ... 1355
KELLY, R. F., see W. R. JONES 1252
KENNEDY, JOHN W., see HERBERT ROTH 935
KERR, T. W.—Carbofuran for Control of the Eastern Spruce Gall Aphid 791
KERR, T. W., and J. M. OWENS—Carbofuran Granules for Control of the Nantucket Pine Tip Moth in Japanese Black Pine 1236
KHAN, A. A., H. I. MAIBACH, and D. L. SKIDMORE—A Study of Insect Repellents. 2. Effect of Temperature on Protection Time 437
KHOO, B. K., and MARTIN SHERMAN—Toxicity and Anticholinesterase Activity of Halogenated Organophosphates to *Boettcherisca peregrina* ... 595
KINDLER, S. D., W. R. KEHR, R. L. OGDEN, and J. M. SCHALK—Effect of Potato Leafhopper Injury on Yield and Quality of Resistant and Susceptible Alfalfa Clones 1298
KINKADE, MELINDA, L., and HOWARD E. ERDMAN—Confused Flour Beetles: X-Ray and/or Malathion Modification of Population Fitness . 967
KINZER, DAVID R., JOHN T. PITTS, R. R. WALTON, and J. S. KIRBY—Thrips Resistance in Plant Introductions and in Selections Made for Peanut Improvement in Oklahoma 91
KIRBY, J. S., see DAVID R. KINZER 91
KISSAM, J. B., RAYMOND NOBLET, and H. S. MOORE, IV—*Simulium*: Field Evaluation of Abate Larvacide for Control in an Area Endemic for *Leucocytozoon smithi* of Turkeys 426
KITAGAKI, TADAHARU, see ISAMU NAKAYAMA ... 941
KLASSEN, WALDEMAR, see HOLLIS M. FLINT ... 47
KLEIN, M. G., see T. L. LADD, JR. 369, 1236
KLEIN, M. G., see K. O. LAWRENCE 477
KLEIN, M. G., see TERRENCE P. MCGOVERN ... 1103
KLEIN, M. G., T. L. LADD, JR., and K. O. LAWRENCE—Simultaneous Exposure of Phenethyl Propionate-Eugenol (7:3) and Virgin Female Japanese Beetles as a Lure 373
KLEIN, M. G., K. O. LAWRENCE, and T. L. LADD, JR.—Japanese Beetles: Shielded Traps to Increase Captures 562
KLEIN, M. G., K. O. LAWRENCE, and T. L. LADD, JR.—A Modified Trap for the Japanese Beetle . 275
KNOKE, J. K., see L. R. NAULT 1271
KNOWLES, CHARLES O., see SHAWKY A. AZIZ ... 1041
KNOWLES, CHARLES O., and WILLIAM J. ROULSTON—Toxicity to *Boophilus microplus* of Formamidine Acaricides and Related Compounds, and Modification of Toxicity by Certain Insecticide Synergists 1245
KNOWLES, CHARLES O., and SURENDRA P. SHRIVASTAVA—Chlordimeform and Related Compounds: Toxicological Studies with House Flies 75
KNOX, D., see H. SHIMANUKI 777
KOBAYASHI, R. M., see S. T. SEO 937
KOBAYASHI, R. M., D. L. CHAMBERS, and E. L. SCHNEIDER—A Yellow-Eyed Mutant of the Melon Fly 792
KOBAYASHI, RICHARD M., see IRVING KEISER 112, 837, 1355
KOMURA, M., see S. T. SEO 522
KOUSKOLEKAS, COSTAS A.—Tea Scale Control of Camellias in the Landscape 533
KOUSKOLEKAS, COSTAS A., and JAMES D. HARPER—Control of Insect Defoliators of Collards in Alabama 1159
KOUSKOLEKAS, COSTAS A., and RAYMOND L. SELF—Control of Tea Scale on Container-Grown Camellias with Granular Systemic Insecticides 1163
KRANTZ, G. W.—Dissemination of *Kampimodromus aberrans* by the Filbert Aphis 575
KRIEGER, R. I., see JAMES DESMARCHELIER 631
KRIEGER, R. I., and PHILIP W. LEE—Properties of the Aldrin Epoxidase System in the Gut and Fat Body of a Caddisfly Larva 1
KRUEGER, H. R., see R. K. LINDQUIST 1001
KRUEGER, H. R., and J. F. MASON—Phorate and Aldicarb: Effects of Systemic Fungicides on Their Levels in Soybeans 815
KRUEGER, H. R., R. K. LINDQUIST, and W. L. BAUERLE—Phorate and Aldicarb in Greenhouse Lettuce: Effect of CO_2 on Residues 573
KRUEGER, H. R., R. L. LINDQUIST, J. F. MASON, and R. R. SPADAFORA—Application of Methomyl to Greenhouse Tomatoes: Greenhouse Whitefly Control and Residues in Foliage and Fruits 1223
KRYSAN, J. L., see P. L. GUSS 352
KUHR, R. J., and J. S. CLEERE—Toxic Effects of Synthetic Juvenile Hormones on Several Aphid Species 1019
KULKARNI, P. G., NORMAN MITLIN, and G. A. HURST—Toxicity of Busulfan and Influence of Ingested Chemosterilized Boll Weevils on Reproductive Performance of the Japanese Quail 341
KUMAR, R., see R. R. GROW 252
KUMAR, RABINDER, and C. C. BURKHARDT—Cyolane and Cytrolane Performance Against Pea Aphids on Alfalfa in Two Climatically Different Localities 181
KUNZ, SIDNEY E., see H. D. MANN 715
KUNZ, SIDNEY E., J. R. CUNNINGHAM, and J. L. ESCHLE—Horn Fly: Use of Insecticides to Disrupt Life Cycle 1239
KURODA, TATSUO, see ISAMU NAKAYAMA 941

L

LABRECQUE, G. C., see RICHARD L. FYE 354
LADD, T. L., JR., see M. G. KLEIN 275, 373, 562
LADD, T. L., JR., see K. O. LAWRENCE 477
LADD, T. L., JR., see TERRENCE P. MCGOVERN . 1103
LADD, T. L., JR., R. T. CANFIELD, and A. J. FORGASH—Sterilization of Japanese Beetles by Gamma Radiation 1047
LADD, T. L., JR., D. W. HAMILTON, P. H. SCHWARTZ, and E. L. PLASKET—A Method of Shipping Japanese Beetles 294
LADD, T. L., JR., M. G. KLEIN, and K. O. LAWRENCE—Japanese Beetles: Attractive Females as Lures in Colored Traps 1236
LADD, T. L., JR., TERRENCE P. MCGOVERN, MORTON BEROZA, B. G. TOWNSHEND, M. G. KLEIN, and K. O. LAWRENCE—Japanese Beetles: Phenethyl Esters as Attractants 369
LA HUE, DELMON W.—Gardona as a Protectant Against Insects in Stored Wheat 485
LANDIS, B. J., see G. T. HAGEL 877
LANG, JOE H., see ROY E. BRY 546
LATHAM, ROBERT, see H. C. CHIANG 779

LAWRENCE, K. O., see M. G. KLEIN 275, 373, 562
LAWRENCE, K. O., see T. L. LADD, JR. 369, 1236
LAWRENCE, K. O., see TERRENCE P. MCGOVERN . 1103
LAWRENCE, K. O., see H. D. NIEMCZYK 520
LAWRENCE, K. O., M. G. KLEIN, and T. L. LADD, JR.—Adult Japanese Beetles: Evaluation of Insecticides for Control 477
LEAL, M. P., see C. A. BENSHCOTER 1333
LEAL, M. P., see D. E. HENDRICKS 1218
LEE, C. Y. L., see S. T. SEO 522
LEE, PHILIP W., see JAMES DESMARCHELIER ... 631
LEE, PHILIP W., see R. I. KRIEGER 1
LEGGETT, J. E., see W. L. MCGOVERN 1332
LEGGETT, J. E., see WILLIAM L. MCGOVERN ... 809
LEGNER, E. F., see G. S. OLTON 909
LEGNER, E. F., and R. E. EASTWOOD—Seasonal and Spatial Distribution of *Tinea fuscipunctella* on Poultry Ranches 685
LEHNERT, T., see H. SHIMANUKI 777
LEIGH, THOMAS F., see WARD M. TINGEY 1312
LENTZ, G. L., see LARRY P. PEDIGO 665
LEONARD, DAVID E., GARY A. SIMMONS, and GERRITT K. VANDERWERKER—Spruce Budworm: Techniques to Improve Counting of Eggs 992
LEUCK, D. B., and M. C. BOWMAN—Chlorphoxim Residues: Their Persistence in Coastal Bermudagrass 798
LEWIS, FRANKLIN B., see WILLIAM G. YENDOL ... 183
LEWIS, L. C., see R. E. LYNCH 1224
LEWIS, L. C., R. E. LYNCH, and E. C. BERRY—Synthetic Juvenile Hormones: Activity Versus the European Corn Borer in the Field and the Laboratory 1315
LEWIS, L. J., see ALAN C. BARTLETT 731
LEWIS, ROBERT E., see WILLIAM H. ROBINSON . .....(Obit.) 831
LIANG, T. T., see E. P. LICHTENSTEIN 863
LIANG, T. T., see K. R. SCHULZ 873
LICHTENSTEIN, E. P., see W. A. CHARNETSKI ... 344
LICHTENSTEIN, E. P., see K. R. SCHULZ 873
LICHTENSTEIN, E. P., T. W. FUHREMANN, K. R. SCHULZ, and T. T. LIANG—Effects of Field Application Methods on the Persistence and Metabolism of Phorate in Soils and Its Translocation into Crops 863
LILLY, C. E.—Wireworms: Efficacy of Various Insecticides for Protection of Potatoes in Southern Alberta 1205
LINDIG, O. H., see J. G. GRIFFIN 1063
LINDIG, O. H., and O. L. MALONE—Oviposition of Boll Weevils Fed Diets Containing Germinated Cottonseed Puree or Cottonseed Meats Puree 566
LINDIG, O. H., and O. L. MALONE—Sodium Benzoate and Sodium Propionate as Anticontamination Diets Fed to Adult Boll Weevils ... 577
LINDLEY, C. D., and E. SEVAL—Control of *Spodoptera littoralis* Larvae on Cotton in Turkey with Dithiolane Iminophosphate Insecticides .. 235
LINDQUIST, R. K., see H. R. KRUEGER 573
LINDQUIST, R. K., H. R. KRUEGER, J. F. MASON, and R. R. SPADAFORA—Application of Diazinon to Greenhouse Tomatoes: Vegetable Leaf Miner Control and Residues in Foliage and Fruits 1001
LINDQUIST, R. L., see H. R. KRUGER 1223
LITSINGER, JAMES A., and JAMES W. APPLE—Thermal Requirements for Embryonic and Larval Development of the Alfalfa Weevil in Wisconsin 309
LLOYD, E. P., see D. B. SMITH 260
LLOYD, J. E., see R. R. GROW 252
LOFGREN, C. S., see W. A. BANKS 241, 785
LOFGREN, C. S., see J. A. SEAWRIGHT 305, 613
LOFGREN, C. S., see DANIEL P. WOJCIK 550
LOFGREN, C. S., D. W. ANTHONY, and G. A. MOUNT—Size of Aerosol Droplets Impinging on Mosquitoes as Determined with a Scanning Electron Microscope 1085
LOOMIS, E. C., L. L. DUNNING, and L. A. RIEHL—Control of *Hypoderma lineatum* and *H. bovis* in California, 1970–72, Using Crufomate, Fenthion, and Imidan in New Low-Volume and Usual Pour-On Formulations 439
LOPEZ, FERNANDO, see E. F. TASCHENBERG 567
LOVITT, ANTHONY E., see EDWIN L. SODERSTROM 741
LOVITT, ANTHONY E , and EDWIN L. SODERSTROM—Effect of Varying Light and Temperature Cycles on the Ovipositional Response of Malathion-Treated Indian Meal Moth Adults 167
LUCKMANN, W. H., see ZILE SINGH 551
LUDWIG, K. A., see E. J. BISHOP 675
LUKEFAHR, M. J., see D. A. WOLFENBARGER ... 211
LUNDY, H. W., see W. B. TAPPAN 197
LYDIN, L. V., see D. O. HATHAWAY 390
LYNCH, R. E., see L. C. LEWIS 1315
LYNCH, R. E., L. C. LEWIS, and J. F. ROBINSON—Lyophilized Rearing Medium for Bioassays . 1224
LYON, ROBERT L., see MARION PAGE 53, 995
LYON, ROBERT L., see JACQUELINE L. ROBERTSON 274, 627, 801, 1255

M

MABIE, J. M., see J. E. BAKER 681, 765
MACCARTER, L. E., and D. H. HABECK—The Melon Aphid: Screening *Citrullus* Varieties and Introductions for Resistance 1111
MACDONALD, JOHN F., see ROGER D. AKRE ..803, 903
MADDISON, P. A., MORTON BEROZA, and T. P. MCGOVERN—Ethyl Chrysanthemumate as an Attractant for the Coconut Rhinoceros Beetle . 591
MADDOCK, D. R., G. O. GUERRANT, H. F. SCHOOF, and J. W. MILES—Effectiveness of Dichlorvos Vapor Against *Xenopsylla cheopis* in Containerized Cargo 689
MAHANY, PATRICK G., see HELEN C. F. SU 845
MAIBACH, H. I., see A. A. KHAN 437
MAITLEN, JAY C., see JOHN ERIC HALFHILL 557
MAJCHROWICZ, IRENA, and WILLIAM G. YENDOL—Fungi Isolated from the Gypsy Moth 823
MALONE, O. L., see O. H. LINDIG 566, 577
MANGLITZ, G. R., see G. L. BELAND 1037
MANGLITZ, G. R., see E. L. NEIMAN 1329
MANGLITZ, G. R., J. M. SCHALK, L. W. ANDERSEN, and K. P. PRUESS—Control of the Army Cutworm on Alfalfa in Nebraska 299
MANGUM, C., see W. G. HART 190
MANN, H. D., M. C. IVEY, SIDNEY E. KUNZ, and B. F. HOGAN—Chlorpyrifos, Its Oxygen Analogue, and 3,5,6-Trichloro-2-Pyridinol: Residues in the Body Tissue of Turkeys Confined in Pens on Treated Soil 715

MARTIN, B. B., see C. E. STRINGER, JR. 295
MARTIN, J. W., see G. B. STAAL 851
MASON, HORATIO C., JOHN W. BALOCK, FLOYD F. SMITH, and RICHARD T. GUEST—Mass Sterilization of Laboratory-Reared *Drosophila melanogaster* with Residues of Tepa 753
MASON, HORATIO C., FLOYD F. SMITH, and ALEXEJ B. BOŘKOVEC—Tests with Chemosterilants in Bait for Suppression of *Drosophila* in Caged Tomatoes 159
MASON, J. F., see H. R. KRUEGER 815, 1223
MASON, J. F., see R. K. LINDQUIST 1001
MASSEY, WILLIAM B., JR., JERRY H. YOUNG, and R. G. PRICE—Laboratory Study on Thermal Mortality of the Bollworm 286
MASTRO, VICTOR C., see DWIGHT S. MOODY 1334
MATHENY, ELLIS L. JR., see E. E. BURGESS 1240
MATTHYSSE, JOHN G., and DAVID MCCLAIN—House Fly Control in Climate-Controlled Caged-Hen Layer Houses 927
MCADA, W. C., see RAYMOND PATANA 817
MCCABE, JOHN M., see ROBERT I. ROSE 398
MCCLAIN, DAVID, see JOHN G. MATTHYSSE 927
MCCORMICK, W. J., see LEON J. CHARPENTIER .. 249
MCDANIEL, H. C., see C. G. WRIGHT 1277
MCDONALD, L. L., see J. L. ZETTLER 1049
MCDONALD, S., see D. L. STRUBLE 769, 1321
MCFADDEN, T. L., see C. S. CREIGHTON 114, 473
MCGARR, R. L.—Tobacco Budworms and Bollworms: Three Promising Insecticides for Control 516
MCGAUGHEY, WM. H.—Angoumois Grain Moth Control in Rough Rice with a Gardona-Dichlorvos Mixture 1353
MCGAUGHEY, WM. H.—Dichlorvos Vapor for Insect Control in a Rice Mill 1147
MCGAUGHEY, WM. H.—Resistance to the Lesser Grain Borer in 'Dawn' and 'Labelle' Varieties of Rice 1005
MCGOVERN, T. P., see D. L. BULL 623
MCGOVERN, T. P., see P. A. MADDISON 591
MCGOVERN, TERRENCE P., see T. L. LADD, JR. . 369
MCGOVERN, TERRENCE P., T. L. LADD, JR., MORTON BEROZA, RAFAEL SARMIENTO, M. G. KLEIN, and K. O. LAWRENCE—Attraction of Japanese Beetles by Chemicals Related to Phenethyl Propionate (Plus Eugenol) and Effect of Selected Additives 1103
MCGOVERN, W. L., see H. C. MITCHELL 563, 677
MCGOVERN, W. L., J. E. LEGGETT, W. L. JOHNSON, and W. H. CROSS—Techniques for Separating Boll Weevils and Other Small Insects from Samples Taken with Insect-Collecting Machines 1332
MCGOVERN WILLIAM L., W. H. CROSS, J. E. LEGGETT, and N. MITLIN—Boll Weevils: A Technique for Measuring the Production of Pheromone and the Competitiveness of ^{32}P Tagged Adults in the Field 809
MCHAFFEY, D. G., see J. E. OLIVER 796
MCKOY, M., see B. J. FIORI 1225
MCLEMORE, B. F.—Loblolly Pine Flowers Damaged by *Phyllophaga* Beetles 541
MCMILLIAN, W. W., see B. R. WISEMAN 647
MCNEAL, F. H., see L. E. WALLACE 1121
MERRITT, PATRICK H., see HENRY A. HIGHLAND 540
METCALF, R. L., see L. B. BRATTSTEN 1347
MEYER, MERLE P., see H. C. CHIANG 779
MEYER, RONALD H., and ROSCOE RANDELL—San Jose Scale Control with Superior Oil 1354
MICKS, DON W., and NINA K. GADDY—Lack of Resistance in *Culex pipiens quinquefasciatus* Under Continuous Selection Pressure with Petroleum Hydrocarbons 288
MILES, J. W., see D. R. MADDOCK 689
MILLER, R. W., and C. H. GORDON—Effect of Feeding Rabon to Dairy Cows Over Extended Periods 135
MILLER, R. W., and L. G. PICKENS—Feeding of Coumaphos, Ronnel, and Rabon to Dairy Cows: Larvicidal Activity Against House Flies and Effect on Insect Fauna and Biodegradation of Fecal Pats 1077
MILLER, R. W., L. G. PICKENS, N. O. MORGAN, R. W. THIMIJAN, and R. L. WILSON—Effect of Stable Flies on Feed Intake and Milk Production of Dairy Cows 711
MILLERS, IMANTS, see RICHARD F. FOWLER 288
MILLS, G. D., JR., see P. E. SONNETT 793
MILLS, ROBERT B., see RODNEY A. STEVENS ... 1222
MILSTEAD, JAMES E., see D. E. PINNOCK 194
MIRABARA, R. Y., see W. J. SCHROEDER 661
MISTRIC, W. J., JR., and W. W. PITTARD—Damage to Flue-Cured Tobacco by Tobacco Budworm and Corn Earworm Alone and Combined at Various Infestation Densities 232
MISTRIC, W. J., JR., and F. D. SMITH—Carbofuran and Other Systemic Insecticides for Control of Insects on Flue-Cured Tobacco 480
MISTRIC, W. J., JR., and F. D. SMITH—Effect of Dosage and Formulation of Carbaryl on Tobacco Flea Beetle, Tobacco Budworm, and Green Peach Aphid Infestations on Flue-Cured Tobacco 1226
MISTRIC, W. J., JR., and F. D. SMITH—Tobacco Budworm: Control on Flue-Cured Tobacco with Certain Microbial Pesticides 979
MISTRIC, W. J., JR., and F. D. SMITH—Tobacco Flea Beetle: Methomyl, Monocrotophos, and Other Insecticides for Control on Flue-Cured Tobacco 825
MISTRIC, W. J., JR., and F. D. SMITH—Tobacco Hornworm: Methomyl, Monocrotophos, and Other Insecticides for Control on Flue-Cured Tobacco 581
MITCHELL, E. B., P. M. HUDDLESTON, N. M. WILSON, and D. D. HARDEE—Boll Weevils: Relationship Between Time of Entry Into Diapause and Time of Emergence from Overwintering 1230
MITCHELL, E. R., see C. A. MORGAN 1343
MITCHELL, E. R., J. C. WEBB, J. C. BENNER, JR., and J. M. STANLEY—A Portable Cylindrical Electric Grid Trap 1232
MITCHELL, H. C., W. H. CROSS, W. L. MCGOVERN, and E. M. DAWSON—Behavior of the Boll Weevil on Frego Bract Cotton 677
MITCHELL, H. C., W. L. MCGOVERN, W. H. CROSS, and N. MITLIN—Boll Weevils: Tagging for Hibernation and Field Studies 563
MITCHELL, J. C., and J. M. SCHMID—Spruce Beetle: Mortality from Solar Heat in Cull Logs of Engelmann Spruce 401
MITLIN, N., see JACK W. HAYNES 619
MITLIN, N., see WILLIAM L. MCGOVERN 809
MITLIN, N., see H. C. MITCHELL 563
MITLIN, NORMAN, see JACK W. HAYNES 1338

MITLIN, NORMAN, see B. M. HINES 1071
MITLIN, NORMAN, see P. G. KULKARNI 341
MIURA, TAKESHI, and R. M. TAKAHASHI—Insect Developmental Inhibitors. 3. Effects on Nontarget Aquatic Organisms 917
MIYABARA, R. Y., see W. J. SCHROEDER ...1261, 1342
MIYASHITA, DORIS H., see IRVING KEISER 1355
MOELLER, FLOYD E.—Timing of Placement of Colonies of Honey Bees for Pollination of Cranberries 370
MOFFITT, H. R., and D. O. HATHAWAY—Effects of Three Systems of Laboratory Collection on the Vigor of Adult Codling Moths 374
MONDOR, W. T., see DONNIE M. POWELL 170
MOODY, DWIGHT S., VICTOR C. MASTRO, and T. L. PAYNE—Automatic Light-Dimming System to Simulate Twilight in Environmental Chambers 1334
MOORE, H. S., IV, see J. B. KISSAM 426
MOORE, I., and A. NAVON—A New Gelling Technique and Improved Calcium-Alginate Medium for Rearing *Spodoptera littoralis* 565
MOORE, LEON, see LAURENCE A. CARRUTH 187
MOORE, R. F., JR., see H. M. TAFT 254
MORENO, D. S., see J. FARGERLUND 1333
MORGAN, C. A., and E. R. MITCHELL—A White Mutant of the Cabbage Looper 1343
MORGAN, N. O., see R. W. MILLER 711
MORGAN, N. O., see R. W. THIMIJAN 1269
MORGAN, NEAL O., WILLIAM N. SULLIVAN, and MILTON S. SCHECHTER—Micronized Resmethrin Dust for Control of Flies in Dairy Barns .. 1281
MORGAN, PHILIP B.—Effect of Aging and Population Density on Wing Fragmentation in House Flies 993
MORGAN, PHILIP B.—House Flies: Effect of Apholate and Its Failure to Induce Resistance . 609
MORGAN, PHILIP B., see RICHARD L. FYE 354
MORITZ, R. J., see F. J. BOYD, JR. 507
MORRIS, R. C., see L. P. ABRAHAMSON 574
MORRISON, R. K., see J. D. WILKINSON 107
MORTON, L. J., see D. O. HATHAWAY 390
MOUNT, G. A., see C. S. LOFGREN 1085
MULLA, MIR S., see YIH-SHEN HWANG 1055, 1339
MULLA, MIR S., YIN-SHEN HWANG, and HAROLD AXELROD—Attractants for Synanthropic Flies: 3. Evaluation, Development, and Formulation of Attractive Baits Against *Hippelates collusor* . 1089
MUNSON, J. D., see RICHARD N. WEDDERBURN .. 253
MUSCHIK, G. M., see MORTON BEROZA 1307
MUSICK, G. J., and P. J. SUTTLE—Suppression of Armyworm Damage to No-Tillage Corn with Granular Carbofuran 735

N

NAIDU, M. B., see KUMUDA SUKUMAR 20
NAKAGAWA, S., G. J. FARIAS, D. SUDA, and D. L. CHAMBERS—Mating Behavior of the Mediterranean Fruit Fly Following Excision of the Antennae 583
NAKAGAWA, SUSUMU, see IRVING KEISER 112
NAKAYAMA, ISAMU, TATSUO KURODA, TADAHARU KITAGAKI, HIROSHI SHINOHARA, and TATSUO OTOKOZAWA—Bagworms: Effectiveness of Several Insecticide Formulations Against the Larvae of Three Species 941
NAQVI, S. M. Z.—Toxicity of Twenty-Three Insecticides to a Tubificid Worm *Branchiura sowerbyi* from the Mississippi Delta 70
NASH, ROBLEY W.—HENRY BYRON PEIRSON (1894–1973) (Obit.) 1360
NASSAR, S., see G. B. STAAL 851
NASSAR, S. G., G. B. STAAL, and N. I. ARMANIOUS—Effects and Control Potential of Insect Growth Regulators with Juvenile Hormone Activity on the Greenbug 847
NAULT, L. R., W. E. STYER, J. K. KNOKE, and H. N. PITRE—Semipersistent Transmission of Leafhopper-Borne Maize Chlorotic Dwarf Virus 1271
NAVON, A., see I. MOORE 565
NEAL, JOHN W., JR., see WILLIAM THOMAS HOLLAWAY 164
NEEL, W. W., see ROBERT B. HEAD 1327
NEILSON, W. T. A.—Improved Method for Rearing Apple Maggot Larvae on Artificial Media 555
NEIMAN, E. L., and G. R. MANGLITZ—Bromegrass Seed Midge: Relationship of Infestation and the Length of Palea of Smooth Bromegrass 1329
NELSON, FRED R. S.—*Drosophila melanogaster*: Effects of Gamma Radiation on Fecundity and Longevity 257
NEUMARK, S., and I. TEICH—Pink Bollworm: Constant-Level Liquid Device for Use in Trapping Moths 298
NEUMARK, SHLOMO, NATHAN GREEN, and IZHAK TEICH—Trapping Pink Bollworm Moths with Hexalure: Masking Effect of Geometrical and Positional Isomers 1349
NIELSEN, M. A., see J. G. SAHA 1125
NIELSEN, ROSS A., and GEORGE E. CANTWELL—The Question of Parthenogenesis in the Greater Wax Moth 37
NIEMCZYK, H. D., and K. O. LAWRENCE—Japanese Beetle: Evidence of Resistance to Cyclodiene Insecticides in Larvae and Adults in Ohio 520
NOBLET, RAYMOND, see J. B. KISSAM 426

O

ODELL, T. M., see R. T. ZERILLO 593
OEHLER, D. D., see JAMES L. ESCHLE 290
OGDEN, R. L., see S. D. KINDLER 1298
OHINATA, K., M. S. FUJIMOTO, D. L. CHAMBERS, M. JACOBSON, and D. C. KAMAKAHI—Mediterranean Fruit Fly: Bioassay Techniques for Investigating Sex Pheromones 812
OISHI, HIDEO, see SEIJI HIRANO 349
OLIVER, B. F., J. R. GIFFORD, and G. B. TRAHAN—Reaction of Selected Rice Lines to Stalk Borers 794
OLIVER, J. E., R. T. BROWN, J. B. STOKES, and D. G. MCHAFFEY—Chemosterilants Against the Boll Weevil. 4. Miscellaneous Compounds . 796
OLIVERIA, FORREST LEE, see ROBERT N. COULSON 893, 897
OLSON, WILLIAM H., see WILLIAM C. BATISTE ... .109, 383, 883
OLTON, G. S., and E. F. LEGNER—House Fly Breeding and Associated Parasitoids in Decaying Melon Fields 909
ONSAGER, JEROME A., and AUGUSTINE DAY—Efficiency and Effective Radius of Blacklight Traps Against Southern Potato Wireworm 403

OTA, ASHER K.—Wireworm Damage to Polyethylene Tubing Used in a Drip Irrigation System 824
OTOKOZAWA, TATSUO, see ISAMU NAKAYAMA 941
OUTRAM, I.—Synthetic Juvenile Hormone: Effect on Pupae of the Spruce Budworm 1033
OWENS, CHARLES D., and STEPHEN TABER, III—Size and Shape of Comb Constructed by Honey Bees in a 1.2m³ Box During One Season 1234
OWENS, J. M., see T. W. KERR 1236

P

PAGE, MARION, see JACQUELINE L. ROBERTSON . 274
PAGE, MARION, and ROBERT L. LYON—Insecticides Applied to Western Tussock Moth Reared on Artificial Diet: Laboratory Tests 53
PAGE, MARION, and ROBERT L. LYON—Toxicity of Eight Insecticides Applied to the Western Tent Caterpillar 995
PARKER, BRUCE L.—Degradation of Gardona on Standing and Stored Forage 312
PARROTT, WILLIAM L., JOHNIE N. JENKINS, and DAVID B. SMITH—Frego Bract Cotton and Normal Bract Cotton: How Morphology Affects Control of Boll Weevils by Insecticides . 222
PASS, B. C., and H. W. DOROUGH—Insecticidal and Residual Properties of EC and Encapsulated Formations of Methyl Parathion Sprayed on Alfalfa 1117
PATANA, RAYMOND, and W. C. MCADA—Tobacco Budworms: Use of Dry Diet Flakes in Rearing . 817
PATE, R. R., see C. E. YONCE 362
PAYNE, J. A., see S. G. POLLES 497, 501, 519
PAYNE, T. L., see DWIGHT S. MOODY 1334
PAYNE, THOMAS L., see ROBERT N. COULSON .893, 897
PEDIGO, L. P., see C. C. BEEGLE 1137
PEDIGO, LARRY P., JAY D. STONE, and G. L. LENTZ—Biological Synopsis of the Green Cloverworm in Central Iowa 665
PERKINS, W. D., see W. W. HARE 284, 285
PERKINS, W. D., see E. A. HARRELL 1340
PERRON, J. M., see S. S. CHAWLA 605, 963
PESHO, G. R., R. G. BAKER, and N. S. HERZOG—Resistance to the Vetch Bruchid in Vetch Species Introductions 456
PETERS, DON C., see RICHARD L. WILSON 101
PETERS, J. C., P. E. BOLDT, and C. J. DELOACH—Photometric and Geometric Estimates of Leaf Surface Area of Cabbage, Mustard, and Turnip Plants as an Aid to Studying Insect Population Dynamics 104
PFRIMMER, T. R., see E. A. STADELBACHER 356
PHADKE, K. G., see S. K. BHATIA 463
PHILLIPS, SHERMAN, see B. H. WILSON 1346
PICKENS, L. G., see R. W. MILLER 711, 1077
PICKENS, L. G., see R. W. THIMIJAN 95, 1269
PIENKOWSKI, ROBERT L., see FENG-KUO HSIEH . 1023
PIERCE JOHN, see H. BRENTON TEILLON 208
PIMENTEL, DAVID, see A. BENEDICT SOANS 380
PINNOCK, DUDLEY E., see ALEXANDER DAVIDSON 586
PINNOCK, D. E., JAMES E. MILSTEAD, NANCY F. COE, and FRANK STEGMILLER—Evaluation of *Bacillus thuringiensis* Formulations for Control of Larvae of the Western Grapeleaf Skeletonizer 194
PITRE, H. N., see L. R. NAULT 1271
PITTARD, W. W., see W. J. MISTRIC, JR. 232
PITTS, JOHN T., see DAVID R. KINZER 91
PLAPP, FREDERICK W., JR., see FRANCES M. SZEICZ 9
PLASKET, E. L., see T. L. LADD, JR. 294
PLAUT, H. N.—Phenology and Host Relations of the Codling Moth in a Three-Generation Climate 412
PLUMLEY, J. K., see DANIEL P. WOJCIK 550
POE, S. L.—Suppression with Acaricides of Two-spotted Spider Mite Populations on Florida Strawberries 490
POLLES, S. G., and J. A. PAYNE—Pecan Weevil: An Improved Method of Sampling Populations in Pecan Trees 519
POLLES, S. G., and J. A. PAYNE—Pecan Weevil: Toxicity of Insecticides in Laboratory Tests .. 497
POLLES, S. G., J. A. PAYNE, and E. J. WEHUNT—Pecan Weevil: Control with Soil-Applied Insecticides and Nematicides. I 501
PONTON, L. F., see M. L. BOBB 1290
POSTON, F. L., see C. C. BEEGLE 1137
POWELL, DONNIE M., and W. T. MONDOR—Control of the Green Peach Aphid and Suppression of Leaf Roll on Potatoes by Systemic Soil Insecticides and Multiple Foliar Sprays 170
PRICE, R. G., see WILLIAM B. MASSEY, JR. 286
PRUESS, K. P., see G. R. MANGLITZ 299
PRUESS, K. P., see DEWEY URBAUER 1267
PUNJABI, A. A., see MORTON BEROZA 1215

R

RACHESKY, S., see JAMES E. APPLEBY 258
RAHALKAR, G. W., see M. R. HARWALKAR 805
RAI, B. K.—*Brassolis sophorae* and *Castnia daedalus*: Chemical Control of These Major Pests of Coconut in Guyana 177
RAI, B. K.—*Spodoptera frugiperda*: Chemical Control in Paddy by Using Ultra-Low-Volume Drift Spraying 1287
RAINA, A. K., see KENNETH E. GIBSON 515
RANDELL, R., see JAMES E. APPLEBY 258
RANDELL, ROSCOE, see RONALD H. MEYER 1354
RASSOULIAN, G., see J. M. SCHALK 579
RATHORE, Y. S., and W. D. GUTHRIE—European Corn Borer: Leaf-Feeding Damage on Field Corn by Larvae Reared for 87 Generations on a Meridic Diet 1195
REAGAN, T. E., S. D. HENSLEY, and J. B. GRAVES—*Diatraea saccharalis*: Response to Laboratory Selection with Azinphosmethyl and Carbofuran 1113
REAGAN, T. E., S. D. HENSLEY, and J. B. GRAVES—Status of Insecticide Resistance in Sugarcane Borer Populations in Louisiana 576
REDDY, G. P. V., see G. M. CHIPPENDALE 1336
REDFERN, R. E., see P. E. SONNETT 793
REDLINGER, L. M., see J. L. ZETTLER 1049
REINERT, JAMES A.—Cuban Laurel Thrips: Systemic Insecticides for Control 1217
REYNOLDS, H. T., see R. K. SHARMA 377
RICE, R. E., see R. K. SHARMA 377
RIDGWAY, R. L., see D. L. BULL 623
RIDGWAY, W. O., see ALAN C. BARTLETT 475
RIEHL, L. A., see E. C. LOOMIS 439
RINGS, ROY W.—Contributions to the Bionomics of Green Fruitworms: The Life History of *Lithophane antennata* 364
ROACH, JOSEPH F., see SAMUEL H. COHEN 859
ROBERTS, MARY-DAWN, see A. B. STEVENSON .. 1354

ROBERTSON, JACQUELINE L., and NANCY L. GILLETTE—Western Tent Caterpillar: Contact Toxicity of Ten Insecticides Applied to the Larvae 629
ROBERTSON, JACQUELINE L., and ROBERT L. LYON—Douglas-Fir Tussock Moth: Contact Toxicity of 20 Insecticides Applied to the Larvae 1255
ROBERTSON, JACQUELINE L., and ROBERT L. LYON—Elm Spanworm: Contact Toxicity of Ten Insecticides Applied to the Larvae 627
ROBERTSON, JACQUELINE L., and ROBERT L. LYON—Western Spruce Budworm: Nonresistance to Zectran 801
ROBERTSON, JACQUELINE L., and ROBERT L. LYON, FAY L. SHON, and MARION PAGE—Western Blackheaded Budworm: Toxicity of Five Insecticides to Two Populations 274
ROBINSON, J. F., see R. E. LYNCH 1224
ROBINSON, S. H., see DAN A. WOLFENBARGER .. 1067
ROBINSON, WILLIAM H., OSCAR E. TAUBER, and ROBERT E. LEWIS—JEAN LUTHER LAFFOON (1922–1973) (Obit.) 831
ROCK, GEORGE C., see KENNETH R. AHLSTROM . 1349
ROCK, GEORGE C., and DANIEL R. YEARGAN—Toxicity of Apple Orchard Herbicides and Growth-Regulating Chemicals to *Neoseiulus fallacis* and Twospotted Spider Mite 1342
ROETTGERING, BRUCE, see H. BRENTON TEILLON 208
ROGERS, C. E., and G. R. HOWELL—Toxicity of Acephate and Diazinon to Harlequin Bugs on Cabbage 827
RONALD, NORMAN C., and CURTIS W. WINGO—Cost and Effectiveness of Horn Fly and Face Fly Control Programs in Semi-Isolated Range Herds in Central Missouri 693
ROSE, ROBERT I., and JOHN M. MCCABE—Laboratory Rearing Techniques for the Southern Corn Rootworm 398
ROTH, HERBERT—Fumigants for Quarantine Control of the Adult Brown Dog Tick: Laboratory Studies 1283
ROTH, HERBERT, and JOHN W. KENNEDY—*Helicella* Snails Infesting Rosemary Seeds: Methyl Bromide and Other Fumigants for Quarantine Control 935
ROULSTON, WILLIAM J., see CHARLES O. KNOWLES 1245

S

SAAD, A. S. A., see M. I. ZEID 1293
SAGAWA, TAKAO, see SEIJI HIRANO 349
SAHA, J. G., R. H. BURRAGE, M. A. NIELSEN, and A. K. SUMNER—Chlordane Residues in Potatoes Grown in Treated Soil and Their Reduction by Home Processing 1125
SANS, W. W., see C. R. HARRIS 199, 203
SARMIENTO, R., see D. L. BULL 623
SARMIENTO, RAFAEL, see TERRENCE P. MCGOVERN 1103
SAUFLEY, GEORGE C.—A Rapid Method of Collecting Lepidopterous Larvae 818
SAUNDERS, J. L., and L. W. GETZIN—Distribution of Phorate and Its Oxidation Analogues in Scots Pine 530
SAWYER, ROY T.—Bloodsucking Freshwater Leeches: Observations on Control 537
SCALES, A. L., see E. A. STADELBACHER 418
SCHAEFER, CHARLES H., and EMIL F. DUPRAS, JR.—Insect Developmental Inhibitors. 4. Persistence of ZR-515 in Water 923
SCHAEFER, CHARLES H., and WILLIAM H. WILDER—Insect Developmental Inhibitors. 2. Effects on Target Mosquito Species 913
SCHALK, JAMES M.—Chickpea Resistance to *Callosobruchus maculatus* in Iran 578
SCHALK, JAMES M.—Wild and Cultivated Host Plants of Some Economically Imported Aphids of Northern Iran 552
SCHALK, J. M., see S. D. KINDLER 1298
SCHALK, J. M., see G. R. MANGLITZ 299
SCHALK, JAMES M., see WALTER J. KAISER 1331
SCHALK, J. M., and G. RASSOULIAN—*Callosobruchus maculatus*: Observations of Attack on Cowpea in Iran 579
SCHECHTER, MILTON S., see NEAL O. MORGAN .. 1281
SCHECHTER, M. S., and D. WHITTAM—Double-Nozzle Dust Gun 1335
SCHMID, J. M., see J. C. MITCHELL 401
SCHNEIDER, E. L., see R. M. KOBAYASHI 792
SCHNEIDER, ESTHER L., see IRVING KEISER 837
SCHOENLEBER, L. G., see P. E. JAMES 245
SCHOOF, H. F.—RICHARD WILLIAM FAY (1912–1972) (Obit.) 829
SCHOOF, H. F., see D. R. MADDOCK 689
SCHROEDER, F., and L. L. BIEBER—Prolongation of Life Stages of Tabacco Hornworm for Experimental Uses 1231
SCHROEDER, W. J., D. L. CHAMBERS, and R. Y. MIYABARA—Mediterranean Fruit Fly: Propensity to Flight of Sterilized Flies 1261
SCHROEDER, W. J., D. L. CHAMBERS, and R. Y. MIRABARA—Reproduction of the Melon Fly: Mating Activity and Mating Compatibility of Flies Treated to Function in Sterile-Release Programs 661
SCHROEDER, W. J., R. Y. MIYABARA, and E. J. HARRIS—A Disposable Cage for the Mediterranean Fruit Fly 1342
SCHULZ, J. T.—Damage to Cultivated Sunflower by *Contarinia schulzi* 282
SCHULZ, K. R., see E. P. LICHTENSTEIN 863
SCHULZ, K. R., E. P. LICHTENSTEIN, T. W. FUHREMANN, and T. T. LIANG—Movement and Metabolism of Phorate Under Field Conditions After Granular Band Applications 873
SCHUSTER, D. J., and K. J. STARKS—Greenbugs: Components of Host-Plant Resistance in Sorghum 1131
SCHUSTER, MICHAEL F., and J. C. BOLING—Species of Cutworms in the Lower Rio Grande Valley 999
SCHUSTER, MICHAEL F., and H. A. DEAN—Rhodesgrass Scale Resistance Studies on Rhodesgrass 467
SCHWARZ, M., see D. L. BULL 623
SCHWARZ, MEYER, see W. F. CHAMBERLAIN 703
SCHWARTZ, P. H., see T. L. LADD, JR. 294
SCOTT, GENE E., see FRANK M. DAVIS 503
SCOTT, W. P., see D. B. SMITH 260
SEAWRIGHT, J. A., M. C. BOWMAN, and C. S. LOFGREN—Insect Chemosterilants: Gas Chromatography, p-Values, and Relationship of p-Values to Sterilant Activity in Pupae of *Anopheles albimanus* 613
SEAWRIGHT, J. A., M. C. BOWMAN, and C. S. LOFGREN—Thioaziridine Chemosterilants: Up-

take, Persistence, and Sterility in Pupae and Adults of *Anopheles albimanus* 305
SEEGRIST, DONALD G., see JACK H. BARGER 79
SELF, RAYMOND L., see COSTAS A. KOUSKOLEKAS 1163
SEO, S. T., D. L. CHAMBERS, C. Y. L. LEE, M. KOMURA, M. FUJIMOTO, and D. KAMAKAHI—Resistance of Pineapple Variety 59-443 to Field Populations of Oriental Fruit Flies and Melon Flies.. 522
SEO, S. T., R. M. KOBAYASHI, D. L. CHAMBERS, A. M. DOLLAR, and M. HANAOKA—Hawaiian Fruit Flies in Papaya, Bell Pepper, and Eggplant: Quarantine Treatment with Gamma Irradiation ... 937
SEVAL, E., see C. D. LINDLEY 235
SHAMIYEH, N. B., R. P. HORNSBY, S. E. BENNETT, and N. L. WOODIEL—Distribution of House Dust Mites in the Environs of a Tennessee River Valley 998
SHARMA, R. K., R. E. RICE, H. T. REYNOLDS, and R. M. HANNIBAL—Effect of Trap Design and Size of Hexalure Dispensers on Catches of Pink Bollworm Males 377
SHARMA, R. N.—An Improvised Technique for Collection of Insect Excreta 268
SHARP, J. L., and D. L. CHAMBERS—A White-Eyed Mutant of the Mediterranean Fruit Fly 560
SHAVER, T. N., see DAN A. WOLFENBARGER 332
SHAVER, T. N., and J. A. GARCIA—Gossypol Content of Cotton Flower Buds 327
SHAW, J. G., see D. S. MORENO 1333
SHERMAN, MARTIN, see B. K. KHOO 595
SHERMAN, MARTIN, and R. B. HERRICK—Fly Control and Chronic Toxicity from Feeding Two Chlorinated Organophosphorus Insecticides to Laying Hens 139
SHIMANUKI, H., see V. E. ADLER 33
SHIMANUKI, H., T. LEHNERT, and D. KNOX—Transmission of *Nosema* Disease from Infected Honey Bee Workers to Queens in Mating Nuclei 777
SHINOHARA, HIROSHI, see ISAMU NAKAYAMA 941
SHON, FAY L., see JACQUELINE L. ROBERTSON .. 274
SHRIVASTAVA, SURENDRA P., see CHARLES O. KNOWLES 75
SHULOV, A., see V. STANIC 261
SIMMONS, GARY A., see DAVID E. LEONARD 992
SIMPSON, ROBERT G., and RALPH E. BERRY—A Twenty-Four Hour Directional Aphid Trap .. 291
SINGH, J., see SURAT S. BATTH 146
SINGH, SHIV RAJ, and YOS SUTYOSO—Effect of Phosphamidon Ultra-Low-Volume Aerial Application on Rice Over a Large Area in Java . 1107
SINGH, ZILE, C. E. WHITE, and W. H. LUCKMANN—Notes on *Amyotea malabarica*, a Predator of *Nezara viridula* in India 551
SKIDMORE, D. L., see A. A. KHAN 437
SKRATT, THOMAS A., see ROBERT L. TALERICO .. 816
SLOAN, C. E., see JACK W. HAYNES 619
SLOSSER, J. E., and T. F. WATSON—Comparison of Pink Bollworm Infestation Levels Between Various Portions of a Cotton Field 278
SMITH, B. C., see A. P. ARTHUR 907
SMITH, C. E., see C. G. WRIGHT 1277
SMITH, D. B., W. P. SCOTT, and E. P. LLOYD—Selected Spray Droplet Sizes and Cotton Varieties for Bollworm Control 260
SMITH, DAVID B., see WILLIAM L. PARROTT 222
SMITH, F. D., see W. J. MISTRIC, JR. 480, 581, 825, 979, 1226
SMITH, F. F., see W. F. WALKER 549
SMITH, FLOYD F., see HORATIO C. MASON 159, 753
SMITH, FLOYD F., see RALPH E. WEBB 539, 1135
SMITH, N., see DAVID A. CARLSON 329
SMITTLE, B. J., see DONALD L. BAILEY 410
SNOW, J. WENDELL, see JOHN L. GOODENOUGH .450, 543
SNOW, J. WENDELL, see D. G. HAILE 739
SOANS, A. BENEDICT, DAVID PIMENTEL, and JOYCE S. SOANS—Resistance in Cucumber to the Twospotted Spider Mite 380
SOANS, JOYCE S., see A. BENEDICT SOANS 380
SODERSTROM, EDWIN L., see ANTHONY E. LOVITT 167
SODERSTROM, EDWIN L., and JOHN W. ARMSTRONG—PP-511: (Pirimiphos Methyl-ISO) Evaluated as a Protectant for Raisins and Walnuts 1305
SODERSTROM, EDWIN L., and ANTHONY E. LOVITT—Interspecific Competition of Almond Moth, Indian Meal Moth, and Raisin Moth in Malathion-Treated and Untreated Almonds .. 741
SONNETT, P. E., G. D. MILLS, JR., and R. E. REDFERN—Synergism of Synthetic Mixed Isomers of Juvenile Hormone 793
SOUSA, A. A., J. A. DURDEN, JR., and J. F. STEPHEN—Esters of 3-Hydroxy-2-Arylindones, a New Class of Acaricide 584
SOUSA, JOHN A., see SAMUEL H. COHEN 859
SOWER, L. L., see K. W. VICK 1258
SOWER, L. L., J. A. COFFELT, and K. W. VICK—Sex Pheromone: A Simple Method of Obtaining Relatively Pure Material from Females of Five Species of Moths 1220
SPADAFORA, R. R., see H. R. KRUEGER 1223
SPADAFORA, R. R., see R. K. LINDQUIST 1001
SPARKS, A. N., see E. A. HARRELL 1340
SPARKS, M. R.—An Automatic Light-Intensity Control for Insect Studies 988
SPARKS, M. R., and J. S. CHEATHAM—Tobacco Hornworm: Marking the Spermatophore with Water-Soluble Stains 719
SRIVASTAVA, A. N., see S. K. BHATIA 463
STAAL, G. B., see S. G. NASSAR 847
STAAL, G. B., S. NASSAR, and J. W. MARTIN—Control of the Citrus Mealybug with Insect Growth Regulators with Juvenile Hormone Activity 851
STADELBACHER, E. A., and T. R. PFRIMMER—Bollworms and Tobacco Budworms: Mating of Adults at Three Locations in the Mississippi Delta 356
STADELBACHER, E. A., and A. L. SCALES—Technique for Determining Oviposition Preference of the Bollworm and Tobacco Budworm for Varieties and Experimental Stocks of Cotton 418
STAFFORD, E. M., see M. T. ALINIAZEE 154
STANIĆ, V., A. SHULOV, R. IKAN, N. GREEN, D. WARTHEN, and M. JACOBSON—Olfactory Responses of the Khapra Beetle Toward Synthetic Alkanol and Alkenol Acetates 261
STANLEY, J. M., see Augustine Day 757
STARKS, K. J., see D. J. SCHUSTER 1131
STATEN, R. T., see ALAN C. BARTLETT 475
STATEN, ROBERT T., MORTON BEROZA, BARBARA A. BIERL, and VICTOR E. ADLER—Pink Bollworm: Field, Laboratory, and Electroantennogram Data on Hexalure and Inhibitors of Its Attraction of the Moth 1263
STEELMAN, C. D., T. W. WHITE, and P. E. SCHILLING—Effects of Mosquitoes on the Average Daily Gain of Hereford and Brahman Breed Steers in Southern Louisiana 1081

STEGMILLER, FRANK, see D. E. PINNOCK 194
STEINER, LOREN F., see E. F. TASCHENBERG ... 567
STEINHAUER, A. L., see L. M. STEVENS 1328
STEPHEN, J. F., see A. A. SOUSA 584
STEVENS, L. M., and A. L. STEINHAUER—Evaluating the D-Vac® as a Sampling Tool for the Alfalfa Weevil Adult 1328
STEVENS, RODNEY A., and ROBERT B. MILLS—Comparison of Techniques for Screening Sorghum Grain Varieties for Resistance to Rice Weevil 1222
STEVENSON, A. B., and MARY-DAWN ROBERTS—Tarnished Plant Bug Rearing on Lettuce 1354
STILL, G. W., see C. R. BURIFF 814, 1350
STIMMANN, M. W., W. W. WOLF, and W. L. BERRY—Cabbage Loopers: Biological Effects of Rubidium in the Larval Diet 324
STOKES, J. B., see J. E. OLIVER 796
STONE, J. D., see C. C. BEEGLE 1137
STONE, JAY D., see LARRY P. PEDIGO 665
STOREY, CHARLES L.—Exothermic Inert-Atmosphere Generators for Control of Insects in Stored Wheat 511
STRAUB, R. W., M. L. FAIRCHILD, and A. J. KEASTER—Corn Earworm: Use of Larval Traps on Corn Ears as a Method of Evaluation Corn Lines for Resistance 989
STRAUB, R. W., M. L. FAIRCHILD, M. S. ZUBER, and A. J. KEASTER—Transmission of Corn Earworm Resistance from Zapalote Chico to Topcross Progenies 534
STRINGER, C. E., see W. A. BANKS 785
STRINGER, C. E., JR., B. MICHAEL GLANCEY, and B. B. MARTIN—A Simple Method for Separating Alate Imported Fire Ants from Workers and Soil 295
STRONG, R. G., and JOHN DIEKMAN—Comparative Effectiveness of Fifteen Insect Growth Regulators Against Several Pests of Stored Products 1167
STRUBLE, D. L., and S. MCDONALD—Residue Analysis of Chlorpyrifos and Its Oxygen Analogue in Field-Treated Wheat Plants 769
STRUBLE, D. L., and S. MCDONALD—Residue Analysis of Leptophos, Its Oxygen Analogue, and Its Phenol in Field-Treated Wheat Plants . 1321
STYER, W. E., see L. R. NAULT 1271
SU, HELEN C. F., PATRICK G. MAHANY, and U. EUGENE BRADY—Synthesis and Bioassay of the Indian Meal Moth Sex Pheromone 845
SUDA, D., see S. NAKAGAWA 583
SUKUMAR, KUMUDA, and M. B. NAIDU—Inhibition of Ovarian Growth by Tepa in *Dysdercus cingulatus* 20
SULLIVAN, WILLIAM N., see NEAL O. MORGAN .. 1281
SUMNER, A. K., see J. G. SAHA 1125
SUTTLE, P. J., see G. J. MUSICK 735
SUTYOSO, YOS, see SHIV RAJ SINGH 1107
SVEC, H. J., see C. R. HARRIS 199, 203, 444
SZEICZ, FRANCES M., FREDERICK W. PLAPP, JR., and S. BRADLEIGH VINSON—Tobacco Budworm: Penetration of Several Insecticides into the Larva 9

T

TABER, STEPHEN, III, see ROY J. BARKER 1351
TABER, STEPHEN, III, see CHARLES D. OWENS .. 1234
TAFT, H. M., A. R. HOPKINS, W. JAMES, and R. F. MOORE, JR.—Boll Weevils: Time of Entry into Hibernation Sites and Variations in Survival and Emergence 254
TAKAHASHI, HIRONOBU, see SEIJI HIRANO 349
TAKAHASHI, R. M., see TAKESHI MIRUA 917
TALERICO, ROBERT L., and THOMAS A. SKRATT—An Application of a Microvideo System to Entomology 816
TANAKA, NOBUHIKO, see SEIJI HIRANO 349
TAPPAN, W. B., W. B. WHEELER, and H. W. LUNDY—Methomyl Residues on Cigar-Wrapper and Flue-Cured Tobaccos in Florida 197
TASCHENBERG, E. F., FERNANDO LOPEZ, and LOREN F. STEINER—Equipment for Periodic Collection of Maturing Larvae of *Anastrepha suspensa* in Circulating Water 567
TAUBER, OSCAR E., see WILLIAM H. ROBINSON ..... (Obit.) 831
TEDDERS, W. L., D. J. WEAVER, and E. J. WEHUNT—Pecan Weevil: Suppression of Larvae with the Fungi *Metarrhizium anisopliae* and *Beauveria bassiana* and the Nematode *Neoaplectana dutkyi* 723
TEETE, J. P., see W. M. BODE 1129
TEETES, G. L., see J. R. CATE, JR. 945, 953
TEETES, GEORGE L.—*Phyllophaga crinita*: Damage Assessment and Control in Grain Sorghum and Wheat 773
TEETES, GEORGE L., and JERRY W. JOHNSON—Damage Assessment of the Greenbug on Grain Sorghum 1181
TEICH, I., see S. NEUMARK 298
TEICH, IZHAK, see SHLOMO NEUMARK 1349
TEILLON, H. BRENTON, RICHARD HUNT, BRUCE ROETTGERING, and JOHN PIERCE—Western Pine Beetle and Other Bark Beetles: Lindane Emulsion Effective in California Tests 208
TELFORD, H. S., see M. T. JAMES 1358
TERRY, P. H., see S. C. CHANG 23
TERRY, P. H., see RICHARD L. FYE 38
THIMIJAN, R. W., see R. W. MILLER 711
THIMIJAN, R. W., and L. G. PICKENS—A Method for Predicting House Fly Attraction of Electromagnetic Radiant Energy 95
THIMIJAN, R. W., L. G. PICKENS, and N. O. MORGAN—Responses of the House Fly, Stable Fly, and Face Fly to Electromagnetic Radiant Energy 1269
THOMAS, E. DAVID—An Automated Inoculating Device for a Packaging Machine 296
THOMPSON, A. R.—Persistence of Biological Activity of Seven Insecticides in Soil Assayed with *Folsomia candida* 855
THOMPSON, HUGH E., and CLARENCE D. GULDNER, JR.—Indopol Polybutenes Control the Twospotted Spider Mite on *Euonymus* in Greenhouse 997
THOMPSON, M. J., see W. J. WALKER 64
TILTON, ELVIN W., see ROBERT R. COGBURN ... 745
TILTON, ELVIN W., and JOHN H. BROWER—Utilization of Irradiated Sperm from Successive Matings by the Female Cowpea Weevil 545
TIMMONS, FRANK D., TED S. BROOK, and F. A. HARRIS—Effects of Aldicarb Applied Side-Dress to Cotton on Some Arthropods in the Monroe County, Mississippi, Boll Weevil Diapause-Control Area in 1969 151
TINGEY, WARD M., THOMAS F. LEIGH, and ANGUS

H. HYER—Three Methods of Screening Cotton for Ovipositional Nonpreference by Lygus Bugs 1312
TOGASHI, KUNIHIKO, see SEIJI HIRANO 349
TOMIKAWA, ISAO, see IRVING KEISER 837
TOMLIN, ALAN D., and ANDREW J. FORGASH—Metabolism of Gardona by Gypsy Moth Larvae 6
TOWNSHEND, B. G., see HILARY F. GOONEWARDENE 396, 1356
TOWNSHEND, B. G., see T. L. LADD, JR. 369
TRAHAN, G. B., see B. F. OLIVER 794
TREAT, T. L., and J. E. HALFHILL—Rearing Alfalfa Loopers and Celery Loopers on an Artificial Diet 569
TREVINO, J. L., see R. O. DRUMMOND 130
TROSTLE, GALEN C., see BRUCE H. BAKER 1002
TURNER, J. P., see L. W. FLETCHER 422

U

URAGO, TADAO, see DERRELL L. CHAMBERS 112
URBAUER, DEWEY, and K. P. PRUESS—Drift of Terrestrial Arthropods in an Irrigation Canal Following a Wide-Area Application of ULV Malathion 1267

V

VANDERWERKER, GERRITT K., see DAVID E. LEONARD 992
VANDERZANT, E. S.—Improvements in the Rearing Diet for *Chrysopa carnea* and the Amino Acid Requirements for Growth 336
VANNATTA, D. L., see M. M. COLE 118
VARDELL, H. H., A. CAGLE, and E. COOPER—Fumigation with Phosphine Against Stored-Product Insects in Bagged Flour in Plywood Overpacks 1209
VARDELL, H. H., A. CAGLE, and E. COOPER—Phosphine Residues on Soybeans Fumigated with Aluminum Phosphide 800
VARDELL, HENRY H., HAGEN B. GILLENWATER, GERALD EASON, and AKLEE CAGLE—White-fringed Beetles: Dichlorvos Applied as a Post-harvest Treatment to Protect Wheat 225
VARDELL, H. H., H. B. GILLENWATER, M. E. WHITTEN, A. CAGLE, G. EASON, and R. S. CAIL—Dichlorvos Degradation on Stored Wheat and Resulting Milling Fractions 761
VICK, K. W., see L. L. SOWER 1220
VICK, K. W., and L. L. SOWER—Z-9,Z-12-Tetradecadien-1-01 Acetate: An Inhibitor of the Response to the Sex Pheromone of *Plodia interpunctella* 1258
VILLENEUVE, D. C., see SURAT S. BATTH 146
VINSON, S. BRADLEIGH, see JAMES BENSKIN 15
VINSON, S. BRADLEIGH, see FRANCES M. SZEICZ . 9

W

WADE, L. J., see D. G. BOTTRELL 791
WALKER, W. F., and M. J. THOMPSON—22,25-Bisdeoxyecdysone: Pathological Effects on the Mexican Bean Beetle and Synergism with Juvenile Hormone Compounds 64
WALKER, W. F., A. L. BOSWELL, and F. F. SMITH—Resistance of Spider Mites to Acaricides: Comparison of Slide Dip and Leaf Dip Methods 549
WALKER, WILLIAM F.—Mexican Bean Beetle: Compounds with Juvenile Hormone Activity (Juvegens) as Potential Control Agents 30
WALLACE, L. E., F. H. MCNEAL, and M. A. BERG—Minimum Stem Solidness Required in Wheat for Resistance to the Wheat Stem Sawfly 1121
WALSTAD, J. D., J. B. HART, JR., and S. C. CADE—Carbofuran-Clay Root Dip Protects Loblolly Pine Seedlings from Debarking Weevils 1219
WALTON, R. R., see DAVID R. KINZER 91
WARTHEN, D., see V. STANIĆ 261
WASHINGTON, F., see M. M. COLE 118
WATSON, T. F., see J. E. SLOSSER 278
WEAVER, D. J., see W. L. TEDDERS 723
WEBB, D. R., see C. J. ECKENRODE 1191
WEBB, J. C., see AUGUSTINE DAY 757
WEBB, J. C., see E. R. MITCHELL 1232
WEBB, RALPH E., and FLOYD F. SMITH—Control of Aphids on Chrysanthemums with Aerosols .. 1135
WEBB, RALPH E., and FLOYD F. SMITH—Influence of Reflective Mulches on Infestations of *Liriomyza munda* in Snap Bean Foliage 539
WEDBERG, J. L., see RICHARD N. WEDDERBURN .. 253
WEDDERBURN, RICHARD N., J. D. MUNSON, and J. L. WEDBERG—Field Trials to Control the European Corn Borer with Insecticides 253
WEHUNT, E. J., see S. G. POLLES 501
WEHUNT, E. J., see W. L. TEDDERS 723
WEIDHAAS, D. E., see W. A. BANKS 785
WEIDHAAS, J. A., JR., see M. L. BOBB 1290
WERNER, RICHARD A.—Absorption, Translocation, and Metabolism of Root-Absorbed ^{14}C-Monitor in Loblolly Pine Seedlings 867
WESTIGARD, P. H.—Pest Status of Insects and Mites on Pear in Southern Oregon 227
WHEELER, W. B., see W. B. TAPPAN 197
WHETSTONE, T. M., see M. L. BEADLES 125, 1095
WHETSTONE, T. M., see R. O. DRUMMOND 1274
WHITE, C. E., see ZILE SINGH 551
WHITE, L. D., see R. B. HUTT 388
WHITE, L. D., and R. B. HUTT—Codling Moth: Effects of Chilling on Longevity and Mating of Adults 558
WHITE, T. W., see C. D. STEELMAN 1081
WHITFIELD, T. L., see DONALD L. BAILEY 410
WHITTAM, D., see M. S. SCHECHTER 1335
WHITTEN, M. E., see H. H. VARDELL 761
WILDE, GERALD, and HARLAN FEESE—A New Corn Leaf Aphid Biotype and Its Effect on Some Cereal and Small Grains 570
WILDER, WILLIAM H., see CHARLES H. SCHAEFER 913
WILKINSON, J. D., and C. M. IGNOFFO—Activity of a Juvenile Hormone Analogue on a Parasitoid, *Apanteles rubecula*, Via Its Host, *Pieris rapae* 643
WILKINSON, J. D., and R. K. MORRISON—Angoumois Grain Moth: Grain Treatment and Infestation Level Effects on Rearing 107
WILLIAMS, DAVID F.—Sticky Traps for Sampling Populations of *Stomoxys calcitrans* 1279
WILLIAMS, PHLETUS P., see DINAH CHILDRESS.... 554
WILSON, B. H., SHERMAN PHILLIPS, and H. M. HARRIS—Species and Seasonal Occurrence of

Leafhoppers and Planthoppers in a Coastal Bermudagrass Pasture in the Macon Ridge Area of Louisiana 1346
WILSON, LOUIS F., see RICHARD F. FOWLER 288
WILSON, N. M., see E. B. MITCHELL 1230
WILSON, R. L.—Rearing Lygus Bugs on Green Beans: A Comparison of Two Oviposition Cages 810
WILSON, R. L., see R. W. MILLER 711
WILSON, RICHARD L., and DON C. PETERS—Plant Introduction of *Zea mays* as Sources of Corn Rootworm Tolerance 101
WILSON, W. T., see J. D. HITCHCOCK 901
WINGO, CURTIS W., see NORMAN C. RONALD ... 693
WISEMAN, B. R., and W. W. MCMILLIAN—Diapause of the Sorghum Midge, and Location within the Sorghum Spikelet 647
WOJCIK, DANIEL P., W. A. BANKS, J. K. PLUMLEY, and C. S. LOFGREN—Red Imported Fire Ant: Laboratory Tests with Additional Candidate Bait Toxicants 550
WOLF, W. W., see M. W. STIMMANN 324
WOLFENBARGER, D. A., see A. A. GUERRA 833
WOLFENBARGER, D. A., M. L. LUKEFAHR, and H. M. GRAHAM—LD_{50} Values of Methyl Parathion and Endrin to Tobacco Budworms and Bollworms Collected in the Americas and Hypothesis on the Spread of Resistance in These Lepidopterans to These Insecticides 211
WOLFENBARGER, DAN A.—Synergism of Toxaphene-DDT Mixtures Applied Topically to the Bollworm and the Tobacco Budworm 523
WOLFENBARGER, DAN A.—Tobacco Budworm: Cross Resistance to Insecticides in Resistant Strains and in a Susceptible Strain 292
WOLFENBARGER, DAN A.—Toxicity of Methylcarbamates and Their Acetylated and Chloroacetylated Analogues Against the Bollworm and the Tobacco Budworm 272
WOLFENBARGER, DAN A., see ELIUD CANTU 527
WOLFENBARGER, DAN A., and T. N. SHAVER—An Infrared Spectrophotometric Technique for Determining Residues of Several Organophosphorus Insecticides from Cotton Foliage .. 332
WOLFENBARGER, DAN A., A. A. GUERRA, and S. H. ROBINSON—Tobacco Budworms: Sterilization, Sexual Competitiveness, and Sperm Transfer of Moths Reared from Eggs Irradiated with ^{60}Co 1067
WONG, T. T. Y., see JAMES A. BURNSIDE 247
WOODHAM, D. W., and F. J. BARTLETT—Whitefringed Beetles: Chemical vs. Biological Tests to Determine Resistance to Dieldrin in Larvae 283
WOODIEL, N. L., see N. B. SHAMIYEH 998
WOODS, C. W., see S. C. CHANG 23
WOODS, C. W., see RICHARD L. FYE 38
WOODS, WALTER, see J. B. CAMPBELL 429
WORKMAN, R. B., see RICHARD B. CHALFANT ... 276
WRIGHT, C. G., and R. G. HILLMANN—German Cockroaches: Efficacy of Chlorpyrifos Spray and Dust and Boric Acid Powder 1075
WRIGHT, C. G., H. C. MCDANIEL, H. E. JOHNSON, and C. E. SMITH—American Cockroach Feeding in Sewer Access Shafts on Paraffin Baits Containing Propoxur or Kepone® Plus a Mold Inhibitor 1277
WRIGHT, J. E., see M. C. BOWMAN 301
WRIGHT, JAMES E., and MALCOLM C. BOWMAN—Determination of the Juvenile Hormone-Active Compound Altosid® and Its Stability in Stable Fly Medium 707

Y

YEARGAN, DANIEL R., see GEORGE C. ROCK ... 1342
YENDOL, W. G., see M. BLISS, JR. 651
YENDOL, WILLIAM G., see IRENA MAJCHROWICZ .. 823
YENDOL, WILLIAM G., RONALD A. HAMLEN, and FRANKLIN B. LEWIS—Evaluation of *Bacillus thuringiensis* for Gypsy Moth Suppression 183
YONCE, C. E., C. R. GENTRY, and R. R. PATE—A Complete Artificial Diet for Rearing the Plum Curculio 362
YOUNG, J. R., see E. A. HARRELL 1211
YOUNG, JERRY H., see WILLIAM B. MASSEY, JR. .. 286
YOUNG, W. R., see S. K. BHATIA 463
YOUNGER, R. L., see R. L. HARRIS 1099

Z

ŽDÁRKOVÁ, E., and E. HORÁK—*Acarus siro* and *Tyrophagus putrescentiae*: Toxicity of Some Insecticides Assayed by a New Testing Method 1237
ZEID, M. I., A. H. EL-SEBAE, NABILA M. BAKRY, and A. S. A. SAAD—Egyptian Cotton Leafworm: Laboratory and Field Evaluation of Certain Insecticides 1293
ZERILLO, R. T., and T. M. ODELL—White Pine Weevil: A Rearing Procedure and Artificial Medium 593
ZETTLER, J. L., L. L. MCDONALD, L. M. REDLINGER, and R. D. JONES—*Plodia interpunctella* and *Cadra cautella*: Resistance in Strains to Malathion and Synergized Pyrethrins 1049
ZUBER, M. S., see R. W. STRAUB 534

SUBJECT INDEX, VOLUME 66, 1973

Compiled by Gladys O. Visel

A

Abate against: *Adelges abietis*, 811
body lice, 119
fruit flies, 837
Leucocytozoon smithi, 426
mosquitoes, 697
southern armyworm, 69
Absorption of Monitor, 867
AC-64475 against wireworms, 1205
AC-92100 against: seedcorn maggot, 1191
wireworms, 1205
Acaralate against European red mite, 239
Acaricide, esters of a new, 584
tests and lone star tick, 1274
Acaricides against: European red mite, 237
twospotted spider mite, 490
Acarina, 82, 125, 130, 237, 380, 490, 549, 575, 997, 998, 1000, 1041, 1095, 1220, 1237, 1245, 1274, 1293, 1342
Acarol against: apple aphid, 238
European red mite, 238
Acarus siro, development following gamma irradiation, 82
insecticide toxicity to, 1237
Acephate, toxicity to harlequin bugs, 827
Acephate against: *Adelges abietis*, 811
aster leafhopper, 266
cabbage looper, 276
corn earworm, 974
Cuban laurel thrips, 1217
elm leaf beetle, 163
elm spanworm, 1188
fall armyworm, 974
green peach aphid, 460
gypsy moth, 544, 1188
Japanese beetle, 478
sugarcane borer, 803
white peach scale, 1292
Accratagallia sanguinolenta, 880
Achatodes zeae, 814
Acheta domesticus, 1029, 1348
pennsylvanicus, 217
Acleris gloverana, 274
Acryloid A-10 against imported fire ant, 241
Acyrthosiphon pisum, 181, 552, 963, 1019, 1331
sesbaniae, 1331
Adelges abietis, 791
control, 811
Adenosine feeding stimulant for sweetclover weevil, 1037
Adogen against mosquitoes, 697
Aedes aegypti, 329, 697
melanimon, 913
nigromaculis, 913
taeniorhynchus, 913, 1085
Aerial photography of corn defoliation, 779
Aerial survey for citrus blackflies, 190
Aerosol, droplets, size impinging on mosquitoes, 1085
for aphid control, 1135
Afugan against ladybird beetle, 961
Agallia constricta, 1347
Agar-agar against imported fire ant, 241
Agonocderus lecontei, 1154
Agrilus anxius, 258
Agrotis gladiaria, 999
ipsilon, 114, 203
ipsilon against cutworms, 999
malefida, 999
Aldicarb, effects on soybeans, 815
in lettuce, 573
residues in alfalfa, 557
side-dress to cotton, 151
Aldicarb against: aphids, 171
boll weevils, 492
bollworm, 260
Cuban laurel thrips, 1217
greenbugs, 955
gypsy moth, 544
pecan weevil, 502
potato leaf roll, 171
predaceous insects and spiders, 958
tea scale, 533, 1164
tobacco flea beetle, 481
Aldrin against: *Acheta pennsylvanicus*, 219
Aldrin against: *Brassolis sophorae*, 178
cabbage maggot, 1157
fall armyworm, 1287
fruit flies, 838
Japanese beetle, 521
lesser cornstalk borer, 1233
southern armyworm, 69
turbificid worm, 72
wireworms, 1205
Aldrin epoxidase properties in caddisfly larva, 1
Aleochara bilineata, 1154
Aleurocanthus woglumi, 190
Alfalfa, aldicarb residues in, 557
army cutworm control on, 299
OP insecticides against pea aphids on, 181
residual properties of methyl parathion on, 1117
Alfalfa clones and potato leafhopper, 1298
Alfalfa leafcutting bee, controlling *Trogoderma* and *Tribolium* in nests, 454
Alfalfa looper, rearing, 560
Alfalfa weevil, apholate influence on reproduction, 1023
D-Vac sampling tool for, 1328
rearing parasite of, 164
thermal effects on, 309
Aliquat 336 against black carpet beetle, 547
Allethrin, resistance to insect penetration of bags, 541
Allethrin against: fruit flies, 838
western tussock moth, 54
Allocoris pulicaria, 1348
Almond moth: in untreated almonds, 741
irradiation, 745
Almonds, moth reproduction in, 741
Alsophila pometaria, 1187
Altosid, against stored-product insects, 1167
stability in stable fly medium, 707
Altozar against stored-product insects, 1167
Aluminum phosphide, soybeans fumigated with, 800
Amblyomma americanum, 1274
maculatum, 1095
Amblyseius fallacis, 238, 1202
American cockroach, behavior under light regimens, 1143
DDT action on, 1228
feeding on propoxur or Kepone baits, 1277
Ouabain action on, 1228
Amidithion against: *Brassolis sophorae*, 178
fall armyworm, 1288
fruit flies, 838
Aminocarb against: fruit flies, 838
tobacco hornworm, 582
western tussock moth, 54
Amphimallon majalis, 1225
Amphipyra pyramidoides, 364
Amphorophora agathonica, 1019
Amyotea malabarica, predator of *Nezara viridula*, 551
Anagasta kuehniella, 319
Anagrapha falcifera, 569
Analogues and reproduction of *Habrobracon juglandis*, 319
Anastrepha suspensa, equipment for collecting, 567
Angoumois grain moth control, 1353
rearing, 107
Anicla infecta, 1000
Anisodactylus sanctaecrucis, 1155
Annelida, 537

Annual meeting notice, 1094
Anocentor nitens, 125, 131, 1274
Anopheles albimanus, 697
aziridinyl chemosterilant relationship to, 613
metabolism, 305
Anopheles crucians, 1081
quadrimaculatus, 1081
Anoplura, 118
Anthonomus grandis, 47, 151, 222, 245, 254, 260, 341, 492, 498, 507, 517, 523, 527, 563, 566, 577, 619, 677, 791, 796, 809, 1063, 1230, 1332, 1338
Anthrenus flavipes, 541
Anticarsia gemmatalis, 114
Antonina graminis, 467
Aonidiella aurantii, 1333
Apanteles rubecula, juvenile hormone activity on, 643
spp., 272
Aphid(s), control on chrysanthemums, 1135
host plants of, 552
Aphid species, toxicity of juvenile hormones to, 1019
Aphid trap, 24-hour directional, 291
Aphis craccivora, 552, 1331
fabae, 1135, 1331
gossypii, 189, 623, 1111, 1331
pomi, 1019
Apholate, effect on house fly, 609
influence on alfalfa weevil reproduction, 1023
Apholate against: *Anopheles albimanus*, 613
Drosophila, 159
olive fruit fly, 56
Apis mellifera, 33, 37, 187, 217, 370, 777, 803, 901, 1234, 1351
Apple maggot, rearing larvae, 555
Apple orchard herbicides, toxicity, 1342
Apple trees, *Stethorus punctum* vs. pesticides on, 1197
Aquatic organisms, inhibitor effect on, 917
Archips argyrospilus, 387
Argia sp., 917
Argyrogramma bagisera, 115
verruca, 114
Argyrotaenia velutinana, 1129, 1201
Army cutworm, control, 299
Armyworm, suppression of damage in corn, 735
Arthropods, aldicarb side-dress to cotton on, 151
drift of terrestrial in canal following ULV malathion application, 1267
juvenile hormone effect on, 623
modifications of munger cage for studying, 1349
Artificial housing for yellowjackets, 803
Aspon against fruit flies, 837
Assay of ULV deposits on *Heliothis zea*, 586
Aster leafhopper, control on carrots, 265
migration and hosts, 877
Attagenus megatoma, 541, 547, 1209, 1327
Atteva aurea, 1348
Attractants for: Japanese beetles, 1103
Lymantria obfuscata, 1215
synanthropic flies, 1055, 1089, 1339
Attraction of melon flies, 112
Autographa californica, 569
Azinphosethyl against fruit flies, 838
Azinphosmethyl, and cotton foliage, 332
Azinphosmethyl, effect on boll weevil, 224
Azinphosmethyl against: army cutworm, 299
boll weevil, 499, 527
Brassolis sophorea, 178
bronze birch borer, 258
cowpea curculio, 728
Diatraea saccaralis, 1113
fall armyworm, 527, 1288
fruit flies, 838
grasshoppers, 987
ladybird beetle, 961
pecan weevil, 497, 502
Platynota stultana, 156
restless bush cricket, 560
southern armyworm, 69, 527
Stethorus punctum, 1197
sugarcane borer, 250, 576, 803
tobacco budworm, 517, 527
tobacco hornworm, 582
turbicid worm, 72
twospotted spider mite, 527
Azinphosmethyl + chlordimeform against *Platynota idaeusalis*, 991
Azinphosmethyl + dimethoate against *Platynota idaeusalis*, 991
Azinphosmethyl + Fundal SP against *Platynota idaeusalis*, 991
Azinphosmethyl + Imidan against *Platynota idaeusalis*, 991
Azinphosmethyl + oil against: codling moth, 1140
pear psylla, 1141
Azinphosmethyl + phosalone against *Platynota idaeusalis*, 991
Azinphosmethyl + phosphamidon against *Platynota idaeusalis*, 991
Azinphosmethyl + TDE against *Platynota idaeusalis*, 991
Azinphosmethyl + Triton X-114 against *Platynota idaeusalis*, 991
Aziridinyl chemosterilants, relationship in *Anopheles*, 613

B

Bacillus larvae, pathogenicity to honey bee, 901
Bacillus thuringiensis, 339, 473
detection on *Heliothis zea*, 586
vs. granulosis virus against green cloverworm, 1137
Bacillus thuringiensis against: grape leaffolder, 157
gypsy moth, 183, 544
Japanese beetle, 479
methomyl residues on tobacco, 198
sugarcane borer, 249
tobacco budworm, 979
western grapeleaf skeletonizer, 194
Bacillus thuringiensis var. *kurstaki* against collard insects, 1159
Backrubbers, coumaphos on, to control horn flies, 290
Bacterial contaminant, control in boll weevil diet, 554
Bagworm, control with *Bacillus thuringiensis*, 675
insecticides against larvae, 941
Bait, spray for control of black cherry fruit fly, 1350
toxicants for red imported fire ant, 550
Baits for: *Hippelates collusor*, 1089
Trogoderma and *Tribolium*, 454
Barley, corn leaf aphid control on, 463
Bay 5638 against Egyptian cotton leafworm, 1293
Bay 37289 against: cowpea curculio, 727
cutworm, 445
garden symphylan, 822
Japanese beetle, 478
Bay 37344 against: *Adelges abietis*, 811
apple aphid, 238
European red mite, 238
Bay 45432 against fall armyworm, 1287
Bay 71628 against: cabbage loopers and flies, crickets, and flea beetles, 219
darksided cutworm, 201
Bay 77049 against: *Acheta pennsylvanicus*, 219
black cutworm, 205
cutworm, 201, 445
Bay 78537 against *Heliothis*, 273
Bay 85194 against *Acheta pennsylvanicus*, 219
darksided cutworm, 201
Bay 92114, against darksided cutworm, 201
evaluation, 219
toxic to honey bees, 219
Bay-Hox 2709 against: ladybird beetle, 961
Stethorus punctum, 1197
Beans, seedcorn maggot control on, 1191
Beauveria bassiana, 665
against pecan weevil, 723
Behavior, flight, of codling moth, 883
Behavior, mating of: fall webworm, 1006
Mediterranean fruit fly, 583
Behavior, probing, of *Eulachnus agilis*, 651
Behavior of: American cockroach under light regimens, 1143
boll weevil on cotton, 677
Bell pepper, Hawaiian fruit flies in, 937
Benomyl against ladybird beetle, 961
Binapacryl against ladybird beetle, 961
Bioassay, and European elm bark beetle, 79
of Indian meal moth sex pheromone, 845
rearing medium for, 1224
Bioethanomethrin against Douglas-fir tussock moth, 1256
Bio-Film against *Stethorus punctum*, 1197
Biological, activity persistence, 855
effects of rubidium in cabbage looper diet, 324
synopsis of green cloverworm, 665
Biology of cottonwood leaf beetle, 1327
Bionomics of: carrot beetle, 86
green fruitworms, 364
Bioresmethrin against gypsy moth and elm spanworm, 983
Biothion, evaluation, 219
Biothion against: cutworms, 201, 205
green peach aphid, 460
Biotrol against: cabbage looper, 276
collard insects, 1159
grape pests, 157, 195
restless bush cricket, 560
tobacco budworm, 980
tomato fruitworm, 473

Biting louse control on goats, 133
Black carpet beetle, carpeting protection against, 546
mating reduction, 1327
Black cherry fruit fly, control with bait spray, 1350
Black cutworm control, 203
Blatella germanica, 27, 44, 859, 1075
Body lice, malathion resistance in, 118
Boettcherisca peregrina, 139
halogenated organophosphates and, 595
Boll weevil, aldicarb and wing traps to suppress, 492
behavior on cotton, 677
busulfan sterilizing, 619, 1338
chemosterilants against, 796
chemosterilization, 47
compounds showing selective activity against, 527
measuring pheromone production in, 809
oviposition, with diet of cottonseed products, 566
relationship between entry and emergence times, 1230
resistance failure to malathion, 791
separating from samples, 1332
sodium benzoate and sodium propionate in diet, 577
tagging, 563
time of entry into hibernation sites, 254
ULV tests for diapause control, 498
UV lamp pass-through cabinet for mass-rearing facility, 1063
Boll weevil control: of bacteria in diet, 554
with wing traps, 507
Boll weevil effect: of ingested chemosterilized, on Japanese quail, 341
on morphology of cotton plants, 222
Bollworm, control, 260, 516
LD_{50} values to, 211
mating, 356
methylcarbamate toxicity against, 272
oviposition on cotton stocks, 418
thermal mortality, 286
toxaphene-DDT applied to, 523
Bombidion quadrimaculatum, 1154
tetracolum, 1155
Bomyl against fruit flies, 837
Boophilus annulatus, 1274
control, 130
Boophilus microplus, 1274
control, 130
toxicity of formamidine acaricides to, 1245
Boric acid, against German cockroach, 1075
Bothynus gibbosus, 86
Bovicola bovis, 127, 703
caprae, 134
crassipes, 134
limbatus, 134
Brachydeutera argentata, 917
Branchiura sowerbyi, insecticide toxicity to, 70
Brassolis sophorae, control, 177
Breeding of house fly, 909
Brevicoryne brassicae, 1303
Bromophos against: *Acarus siro*, 1237
fruit flies, 838
ticks, 131, 1275
Tyrophagus putrescentiae, 1237
Bromophos-ethyl against lone star tick, 1275
Bronze birch borer, control, 258
Broomgrass seed midge and smooth bromegrass, 1329
Brown dog tick, control, 1283
Bruchus brachialis, 456
chinensis, 277
lentis in lentils, 515
Bucculatrix thurberiella, 1333
Busulfan, against boll weevil, 48
and boll weevil sterilization, 619
toxicity to Japanese quail, 341
treated diet necessary for boll weevil sterilization, 1338
Bux, evaluation, 219
Bux against: darksided cutworm, 201
European corn borer, 254
garden symphylan, 822
Japanese beetle, 479
Byrsotria fumigata, 859

C

C-8874 toxicity to *Boettcherisca*, 595
C-9491 against: black carpet beetle, 547
Egyptian cotton leafworm, 1293
tobacco flea beetle, 826
C-11043 toxicity to *Boettcherisca*, 595
C-11044 toxicity to *Boettcherisca*, 595
C-11046, toxicity to *Boetcherisca*, 595
C-14812 toxicity to *Boettcherisca*, 595
C-17209 toxicity to *Boettcherisca*, 595
C-17210 toxicity to *Boettcherisca*, 595
C-18224 against cutworm, 201, 205, 445
C-18244, against wireworms, 1205
evaluation, 219
toxicity to *Boettcherisca*, 595
Cabbage, green peach aphid trials on, 459
leaf estimates, 104
toxicity of acephate and diazinon to harlequin bugs on, 827
Cabbage aphid control, 1303
Cabbage looper, control, 276
rubidium effects in diet, 324
temperature and toxicity, 339
white mutant of, 1343
Cabbage maggot control, 1153
Cacodylic acid for suppression of southern pine beetle, 897
Caddisfly, aldrin epoxidase properties in larva, 1
Cadra cautella, 541, 741, 745, 1147, 1168, 1220
resistance to malathion, 1049
Cadra figulilella, 741
Cage for Mediterranean fruit fly, 1342
California red scale, captures, 1333
Callibaetis sp., 917
Calliphora sp., 910
Callosobruchus maculatus, 545
attack on cowpeas, 579
chickpea resistance to, 578
Calosoma spp., 272
Calospilas miranda, 943
Calves, cattle grub control on, 429
Camellias, tea scale control on, 533, 1163
Candidate materials as soil insecticides, 216
Canephor asiatica, 941
Captan against: ladybird beetle, 961
seedcorn maggot, 1193
Capture-recapture system for yellowjackets, 903
Carbamate against twospotted spider mite, 491
Carbanolate against: ticks, 131, 1275
tobacco hornworm, 582
Carbaryl, effects on gypsy moth and elmspanworm, 271
Carbaryl toxicity: in natural insect populations, 1347
to *Malacosoma* spp., 630
Carbaryl against: *Adelges abietis*, 811
army cutworm, 299
aster leafhopper, 266
body lice, 119
Brassolis sophorae, 178
cowpea curculio, 728
elm leaf beetle, 163
elm spanworm, 628
European corn borer, 254
fall armyworm, 1288
fruit flies, 838
grape leaffolder, 158
green cloverworm, 1138
green peach aphid, 1226
southern armyworm, 69
gypsy moth, 544
Japanese beetle, 478, 521
ladybird beetle, 961
pecan weevil, 497, 502
restless bush cricket, 560
Platynota stultana, 156
Spodoptera littoralis, 590
ticks, 131, 1275
tobacco budworm, 9, 293, 980, 1226
tobacco flea beetle, 826, 1226
tobacco hornworm, 582
tomato fruitworm, 473
turbicid worm, 72
western tussock moth, 54
white peach scale, 1292
Carbaryl + molasses against: army cutworm, 299
aster leafhopper, 266
Carbaryl + naled against *Platynota stultana*, 156
Carbofuran against: alfalfa weevil, 1118
army cutworm, 299
armyworm, 735
aster leafhopper, 266
collard insects, 1159
corn leaf aphid, 464
cowpea curculio, 728
Cuban laurel thrips, 1217
Diatraea saccharalis, 1113
eastern spruce gall aphid, 791
elm leaf beetle, 163
European corn borer, 254
Folsomia candida, 855
garden symphylan, 822
grain sorghum pests, 774
green peach aphid, 460
gypsy moth, 544
Heliothis, 273
house fly, 1081
lesser cornstalk borer, 1233
Nantucket pine tip moth, 1236
onion thrips, 975
pecan weevil, 497, 502
Platynota idaeusalis, 991
seedcorn maggot, 1192
southern armyworm, 69
stable fly, 1081
Stethorus punctum, 1197
sugarcane borer, 803
tea scale, 533, 1164
tobacco insects, 480
white peach scale, 1292
wireworms, 1205
Carbofuran-clay root dip to protect loblolly pine, 1219

Carbophenothion against: corn leaf aphids, 950
fruit flies, 838
greenbugs, 946
southern armyworm, 69
ticks, 131, 1275
Cargo, *Xenopsylla cheopis* in, 689
Carpeting, protection from black carpet beetle, 546
Carrot beetle attacking sunflower, 86
Carrots, aster leafhopper control on, 265
Castnia daedalus, control, 177
Catocala maestosa, 519
Cattle biting louse, compounds for juvenile hormone activity, 703
juvenile hormone against, 127
Cattle grub control on calves, 429
Cecidomyia sp., 1241
Cecidophyopsis vermiformis 575
Celery looper, rearing, 569
Cephus cinctus, 1121
Ceratitis capitata, 560, 583, 812, 837, 937, 1261, 1342, 1355
Cereal, effect of corn leaf aphid on, 570
Cesium-137, *Oryzaephilus* sensitivity to, 605
CGA-13608 against: ladybird beetle, 961
Stethorus punctum, 1197
Chaetopsis debilis, 217
Chalcodermus aeneus, 727, 1011
CHE-7375 against tea scale, 1163
Cheese skipper, growth and development, 1252
Chelonus blackburni, overwintering, 807
Chemosterilant, atrophy of screwworm testes, 424
metabolism of *Anopheles albimanus*, 305
Chemosterilants: effective in the house fly, 1007
for house fly, 38, 354
Chemosterilization, by fumigation, 23
Chemosterilization of: boll weevil, 47
Drosophila, 159
Chevron 11775 against garden symphylan, 822
Chickpea resistance to *Callosobruchus maculatus*, 578
Chilo plejadellus, 794
Chironomus stigmaterus, 917
Chlordane residues in potatoes, 1125
Chlordane against: cutworm, 445
dark cutworm, 205
fruit flies, 838
German cockroach, 46
grain sorghum pests, 774
Japanese beetle, 521
pecan weevil, 502
turbificid worm, 72
wireworms, 1205
Chlordimeform, and house fly, 75
repellent action, 1187
Chlordimeform against: bollworm, 517
cabbage looper, 276
darksided cutworm, 201
Egyptian cotton leafworm, 1294
elm spanworm, 1188
fall armyworm, 1288
green peach aphid, 460
gypsy moth, 1188
Platynota idaeusalis, 991
sugarcane borer, 803
tobacco budworm, 517
tomato fruitworm, 474
white peach scale, 1292
Chlordimeform hydrochloride against: apple aphid, 238
European red mite, 238
Chlorfenethol against turbificid worm, 72
Chlorfenvinphos against *Brassolis sophorae*, 178
Chlormethylfos against Douglas-fir tussock moth, 1256
Chlorobenzilate against fruit flies, 838
Chlorochora ligata, 189
sayi, 189
Chlorotettix viridius, 1347
Chlorothene against black carpet beetle, 547
Chlorphenamidine against fall armyworm, 1287
Chlorphenvinphos against fall armyworm, 1287
Chlorphoxim, against Douglas-fir tussock moth, 1256
residue persistence in coastal bermudagrass, 798
Chlorpyrifos, Gulf Coast tick susceptibility to, 1095
Chlorpyrifos against: *Acheta pennsylvanicus*, 219
black cutworm, 205
cowpea curculio, 728
cutworm, 201, 445
Egyptian cotton leafworm, 1294
Folsomia candida, 855
fruit flies, 838
German cockroach, 1075
pecan weevil, 497
seedcorn maggot, 1192
southern armyworm, 69
ticks, 131, 1275
tobacco flea beetle, 826
turbicid worm, 72
western tussock moth, 54
white peach scale, 1292
Chlorpyrifos residues in: turkeys, 715
wheat, 769
Chlorpyrifos-methyl against bagworms, 941
Chlorthion against fruit flies, 837
Choristoneura fumiferana, 992, 1033
occidentalis, 801
rosaceana, 1201
Chrysanthemums, aphid control on, 1135
Chrysochus auratus, 1348
Chrysomela scripta, 1327
Chrysomya megacephala, 139
Chrysopa carnea, 623
improvements in rearing diet, 336
Ciba (see C)
Cidial against body lice, 119
Circulifer tennellus, 877
Citrullus, screening and resistance to melon aphid, 1111
Citrus, insecticide toxicity of restless bush cricket on, 559
Citrus blackfly, aerial survey for, 190
Citrus mealybug, control, 851
CL-47470 against: *Brassolis sophorae*, 178
fall armyworm, 1288
CO_2, against brown dog tick, 1285
anesthesia effect on grasshoppers, 538
residue effect on lettuce, 573
Coastal bermudagrass, chlorphoxim residues in, 798
leafhopper and planthopper occurrence in, 1346
Coatings for corncob grit-soybean oil bait, 241
Cochliomyia hominivorax, 257, 422, 424, 529
Cockroaches, UV irradiation on, 859
Coconut, control of *Brassolis* and *Castnia* in, 177
Coconut rhinoceros beetle, attractant for, 591
traps for, 1216
Codling moth, chilling effects on, 558
control on pears, 1139
flight behavior, 883
mass rearing, 383, 390
phenology and host relations, 412
recovered fertility with gamma irradiation, 388
vigor, 374
Coleoptera, 30, 47, 64, 79, 86, 101, 116, 151, 162, 164, 208, 222, 225, 251, 254, 258, 259, 261, 275, 283, 294, 319, 352, 362, 369, 373, 396, 398, 401, 403, 417, 447, 454, 456, 477, 492, 497, 498, 501, 507, 515, 519, 541, 545, 546, 554, 562, 563, 566, 572, 577, 578, 579, 581, 591, 593, 605, 619, 677, 681, 723, 757, 765, 773, 791, 796, 809, 824, 825, 841, 893, 897, 961, 967, 1005, 1011, 1015, 1023, 1037, 1047, 1051, 1059, 1063, 1103, 1175, 1197, 1205, 1216, 1219, 1222, 1225, 1226, 1230, 1236, 1318, 1327, 1328, 1332, 1338, 1356
Collards, control of defoliators, 1159
Collecting, *Anastrepha suspensa*, 567
insect excreta, 268
lepidopterous larvae, 818
Collembola, 855
Comparison of: pink bollworm levels in cotton field, 278
traps for coconut rhinoceros beetles, 1216
Compound 4072 against ticks, 131, 1275
Compounds attracting yellowfever mosquitoes, 329
Computation of filial generations of *Spodoptera littoralis*, 589
Confused flour beetle, X-ray and malathion effects on, 967
Conoderus exsul, 824
falli, 403, 757
Conotrachelus nenuphar, 362
Contarinia schulzi damage to sunflower, 282
sorghicola, 647
Control, fumigants for quarantine, 935
light-intensity, for insects, 988
potential of insect growth regulators, 847
Control of: *Adelges abietis*, 811
Angoumois grain moth, 1353
aphids, 1135
army cutworm, 299
aster leafhopper, 265
bacteria in boll weevil diet, 554
bagworm, 675
biting lice on goats, 133
black cherry fruit fly, 1350
boll weevil with wing traps, 507
bollworm on cotton, 260
bronze birch borer, 258
brown dog tick, 1283
cabbage aphid, 1303
cabbage looper, 276
cabbage maggot, 1153
citrus mealybug, 851
codling moth, 1139
collard defoliators, 1159
corn earworm, 973
corn leaf aphid, 463, 953

cowpea curculio, 727
Cuban laurel thrips, 1217
eastern spruce gall aphid, 791
elm leaf beetle, 162
European corn borer, 253
European red mite, 237
face fly, 693
fall armyworm, 973
flies, 139, 1281
forest tent caterpillar, 574
garden symphylan, 822
grape leaffolder, 157
grape pests, 154
grasshoppers, 987
green peach aphid, 170
greenbug, 847, 953
greenhouse whitefly, 1223
gypsy moth, 1357
horn fly, 693
house flies, 927
Hypoderma, 439
imported fire ant, 241
Control of insects: in stored grains, 277
in wheat, 511
with dichlorvos vapor, 1147
Control of Japanese beetle, 477
leaf-feeding insects, 1240
leeches, 537
lesser cornstalk borer, 1233
Leucocytozoon smithi, 426
lilac borer, 248
Mexican bean beetle by juvegens, 30
Nantucket pine tip moth, 1236
pear psylla, 1139
pecan weevil, 501
Phyllophaga crinita in grain sorghum and wheat, 773
redheaded pine sawfly, 288
San Jose scale, 1354
seedcorn maggot, 1191
Spodoptera frugiperda, 1287
S. littoralis, 235
sugarcane borer, 249, 802
tea scale, 533, 1163
tobacco budworm, 979
tobacco flea beetle, 825
tobacco hornworm, 581
tobacco insects, 480
tomato fruitworm, 473
turnip aphid, 1303
twospotted spider mite, 997
vegetable leaf miner, 1001
western grapeleaf skeletonizer, 194
peach scale, 1290
wireworms, 1205
Corisella decolor, 917
Corn, aerial photography in detecting defoliation, 779
armyworm damage suppression in, 735
spider mites associated with, 1220
traps for resistance evaluation, 989
Corn earworm, and moisture in rearing cells, 284
control on sweet corn, 973
damage to tobacco, 232
heat effect on egg hatch, 285
reduced capture in electric grid traps, 739
transmission of resistance, 534
traps for corn line resistance, 989
Corn genotypes, screening for resistance, 503
Corn leaf aphid, control, 463, 953
foliar treatments against, 945
new biotype, 570
Corn rootworm tolerance, *Zea mays* as sources of, 101
Corncob grit-soybean oil bait, coatings for, 241
Cost of horn fly and face fly control, 693
Cotton, aldicarb side-dress to cotton, 151
boll weevil behavior on, 677
gossypol in buds, 327
Heliothis oviposition on, 418
juvenile hormone effect on arthropods associated with, 623
organophosphorus insecticide residues from foliage, 332
related to *Heliothis* spp. overwintering, 515
screening for Lygus nonpreference, 1312
seasonal abundance of *Heliothis* on, 524
spray droplet sizes on, 260
Cotton field, pink bollworm levels in, 278
Cotton leafperforator, rearing, 1333
Cotton pests, overwintering, 657
Cotton plant morphologies and insecticide, 222
Cotton scouting and pesticide use, 187
Cottonseed products, in diet of boll weevils, 566
Cottonwood leaf beetle, biology, 1327
Coumaphos, on backrubbers to control horn flies, 290
Coumaphos against: cattle grubs, 429
fruit flies, 838
house flies, 1077
southern armyworm, 69
ticks, 131, 1275
Counter against seedcorn maggot, 1191
Cowpea, *Callosobruchus maculatus* attack on, 579
Cowpea curculio, control, 727
southern pea resistance to, 1011
Cowpea weevil, use of sperm from matings, 545
CP-40294 against tobacco hornworm, 582
CP-47114 against grasshoppers, 987
CP-42320, 42366, 42527, 43057, 43856, 43858, 44016, 48985 against tobacco budworm, boll weevil, twospotted spider mite, southern armyworm, fall armyworm, 527
Cranberries, timing of honey bees for pollination, 370
Crotoxyphos against ticks, 131, 1275
Crufomate against: *Hypoderma*, 439
ticks, 131, 1275
Cryolite against sugarcane borer, 249
Cryptolestes pusillus, 541
Cryptothelea formosicola, 942
miniscula, 941
CSM against tomato fruitworm, 473
Cuban laurel thrips, control, 1217
Cucumber, resistance to twospotted spider mite, 380
Culex fatigans, 288
Culex pipiens quinquefasciatus, 697
resistance to petroleum hydrocarbons, 288
tarsalis, 913
Curculio caryae, 497, 501, 509, 723
Cutworms, in Rio Grande Valley, 999
toxicological studies on, 199, 203
Cyclocephala immaculata, 1348
Cyclops sp., 917
Cyolane against: *Brassolis sophorae*, 178
collard insects, 1159
cutworm, 445
Egyptian cotton leafworm, 236, 1295
fall armyworm, 1287
pea aphids, 181
Cyolane + DDT against Egyptian cotton leafworm, 236, 1294
Cypricercus sp., 917
Cytrolane against: corn leaf aphid, 464
cutworm, 445
Egyptian cotton leafworm, 236, 1294
pea aphids, 181

D

Dacus cucurbitae, 112, 661, 792, 837, 937, 1355
dorsalis, 837, 937, 1355
oleae, 55
(*Strumeta*) *tryoni*, sex pheromone production in, 62
Dairy cattle, control of horn flies on, 290
Dairy cows, feeding insecticides to, 1077
Rabon effect on, 135
stable fly effect on, 711
Dalbulus elimatus, 1271
maidis, 1271
Damage, armyworm, to corn, 735
Damage of: European corn borer to field corn, 1195
greenbug on grain sorghum, 1181
Phyllophaga crinita in grain sorghum and wheat, 773
tobacco budworm to tobacco, 470
wireworms to polyethylene tubing, 824
Daphnia magna, 917
Daran 211 against imported fire ant, 241
Daran 220 against imported fire ant, 242
Daran X-225 against imported fire ant, 242
Darksided cutworm control, 199
Dasanit against: cabbage maggot, 1154
cowpea curculio, 727
European corn borer, 254
fruit flies, 837
garden symphylan, 822
grain sorghum pests, 774
tea scale, 1163
tobacco hornworm, 582
Datana integerrima, 519
DBCP against pecan weevil, 502
DDE against whitefringed beetle, 283
DDT, applied to bollworm and tobacco budworm, 523
cross-resistance of German cockroach to, 44
toxicity to *Malacosoma* spp., 630
DDT against: alfalfa leafcutting bee, 454
American cockroach, 1228
body lice, 119
Brassolis sophorae, 178
cutworm, 205, 445
darksided cutworm, 201
Douglas-fir tussock moth, 1256
Egyptian cotton leafworm, 236
elm spanworm, 628
fall armyworm, 1288
fruit flies, 838
southern armyworm, 69
Spodoptera littoralis, 590
ticks, 131
tobacco budworm, 9, 293

tomato fruitworm, 473
turbificid worm, 72
western blackheaded budworm, 274
western tent caterpillar, 996
western tussock moth, 54
whitefringed beetle, 283
DDT + endrin against Egyptian cotton leafworm, 1294
DDT + lindane + methyl parathion against Egyptian cotton leafworm, 1294
DDT + methyl parathion against Egyptian cotton leafworm, 1294
DDT + methyl parathion + endrin against Egyptian cotton leafworm, 1293
Deet, temperature effect on protection time, 438
Delphacodes propinqua, 1346
Deltocephalus flavicosta, 1347
sonorus, 1271
Demeton against: aphids, 171
corn leaf aphids, 950
fruit flies, 838
greenbugs, 947
Platynota idaeusalis, 991
potato leaf roll, 171
southern armyworm, 69
Dendroctonus brevicomis, 208
frontalis, 893
jeffreyi, 208
pseudotsugae, 1002
rufipennis, 401
Deobase + chlorothene + acetone against black carpet beetle, 547
Deobase + petroleum naphtha against black carpet beetle, 547
Deobase + tetrachloroethylene against black carpet beetle, 547
Depressed flour beetle, sensitivity to gamma irradiation, 1318
Dermacentor albipictus, 131, 1274
Derma-Kill against alfalfa leafcutting bee, 454
Dermestes ater, 1347
Desmia funeralis, 157
Development, inhibitors, 819
of cheese skipper, 1252
Diabrotica longicornis, 101
sp., 863
undecimpunctata howardi, 352, 398, 1267
virgifera, 417, 1015, 1051, 1267
Dialifor against: Japanese beetle, 478
pecan weevil, 497
Platynota stultana, 156
Stethorus punctum, 1197
Diapause of sorghum midge, 647
Diatraea grandiosella, 503
Diatraea saccharalis, 249, 576, 794, 802
insecticide selection in, 1113
Diazinon, application to tomatoes, 1001
German cockroach resistance to, 44
toxicity to harlequin bugs, 827
western corn rootworm resistance to, 1015
Diazinon against: *Adelges abietis*, 811
army cutworm, 299
cabbage maggot, 1155
corn leaf aphid, 465, 950
cowpea curculio, 728
European corn borer, 253
fall armyworm, 1288
Folsomia candida, 855
fruit flies, 838
garden symphylan, 822
grain sorghum pests, 774
green peach aphid, 460
greenbugs, 946
Japanese beetle, 478, 521
lesser cornstalk borer, 1233
pecan weevil, 502
Platynota idaeusalis, 991
restless bush cricket, 560
seedcorn maggot, 1192
southern armyworm, 69
ticks, 131, 1275
tobacco hornworm, 582
white grubs, 775
white peach scale, 1292
wireworms, 1205
yellowjackets, 1097
Dicapthon against fruit flies, 838
Dichlorvos, collars and biting lice, 133
degradation on wheat, 761
non-repellancy to house fly, 1006
residues in grain, 315
vapor for insect control, 1147
vaporizer tests, 146
wheat protectant, 225
Dichlorvos against: *Acarus siro*, 1237
aphids, 1135
fruit flies, 838
southern armyworm, 69
Tyrophagus putrescentiae, 1237
western tussock moth, 54
whitefringed beetle, 225
Xenopsylla cheopis, 689
Dicofol against: fruit flies, 838
turbicid worm, 72
Dicrotophos against: *Brassolis sophorae*, 178
fall armyworm, 1288
grasshoppers, 987
turbificid worm, 72
Dieldrin against: *Acheta pennsylvanicus*, 219
cabbage maggot, 1155
fall armyworm, 1288
Folsomia candida, 855
fruit flies, 838
Japanese beetle, 521
seedcorn maggot, 1192
southern armyworm, 69
turbificid worm, 72
whitefringed beetle, 283
Diet, artificial for: alfalfa and celery loopers, 569
plum curculio, 362
western tussock moth, 53
whitefringed beetles, 581
toxicity of insecticides fed gypsy moths, 544
Diet, busulfan-treated, necessary for boll weevil sterilization, 1338
dry, for southern corn rootworm, 352
filler for form-fill-seal machine, 1340
for southern green stink bug, 269
improvements in diet for *Chrysopa carnea* rearing, 336
Diet, meridic: of European corn borer larvae, 1195
weevil growth responses on, 681
Diet, moisture removed from corn earworm rearing cells on, 284
Diet of boll weevil: containing cottonseed products, 566
control of bacteria in, 554
sodium benzoate and sodium propionate in, 577
Diet of: cabbage looper, rubidium effects in, 324
Hylobius pales, 841
Dikar against: European red mite, 239
ladybird beetle, 961
Dikraneura absenta, 880
carneola, 880
Dilan against fruit flies, 837
Dimethoate against: aster leafhopper, 266
bagworms, 941
bronze birch borer, 258
collard insects, 1160
corn leaf aphid, 464
Cuban laurel thrips, 1217
English grain aphid, 1326
fruit flies, 838
grasshoppers, 987
green peach aphid, 460
pecan weevil, 497, 502
Platynota idaeusalis, 991
restless bush cricket, 560
southern armyworm, 69
tea scale, 533, 1164
white peach scale, 1292
Dimetilan against fruit flies, 838
Dinobuton against European red mite, 239
Dinocap against: European red mite, 239
Stethorus punctum, 1197
Dioryctria sp., 542
Dioxacarb against fall armyworm, 1287
Dioxathion against: cowpea curculio, 728
fruit flies, 838
southern armyworm, 69
ticks, 131, 1275
Dipel against: cabbage looper, 276
collard insects, 1159
corn earworm, 974
fall armyworm, 974
grape leaffolder, 157
green peach aphid, 460
Platynota stultana, 156
Stethorus punctum, 1197
tobacco budworm, 981
tomato fruitworm, 473
western grapeleaf skeletonizer, 195
Dipel + corn oil against: corn earworm, 974
fall armyworm, 974
Diploptera punctata, 859
Diprion similis, 262
Diptera, 23, 38, 55, 62, 75, 95, 112, 159, 257, 282, 288, 290, 301, 305, 329, 354, 410, 422, 424, 426, 429, 432, 439, 522, 529, 539, 555, 560, 567, 583, 595, 609, 613, 647, 661, 693, 707, 711, 753, 792, 812, 837, 909, 913, 927, 937, 993, 1001, 1007, 1055, 1077, 1081, 1089, 1099, 1153, 1191, 1239, 1252, 1261, 1269, 1279, 1281, 1329, 1339, 1342, 1350, 1355
Disparlure, attractant for *Lymantria obfuscata*, 1215
baited box trap for gypsy moths capture, 359
Dispersal and flight of stable fly, 410
Dissemination of *Kampimodromus aberrans*, 575
Distribution of: house dust mites, 998
Tinea fuscipunctella, 685
Disulfoton against: aphids, 171
Brassolis sophorae, 178
corn leaf aphid, 464, 950
fall armyworm, 1288
fruit flies, 838
green peach aphid, 460
greenbugs, 947, 955
gypsy moth, 544
pecan weevil, 497
potato leaf roll, 171

predaceous insects and spiders, 958
southern armyworm, 69
tea scale, 533, 1164
tobacco flea beetle, 481
Dithane M-45 against: codling moth, 1140
pear psylla, 1141
Dition against fruit flies, 837
DMP, temperature effect on protection time, 438
Dodine against ladybird beetle, 961
Douglas-fir beetle, attractant qualities, 1002
Douglas-fir tussock moth, toxicity of insecticides to larvae, 1255
Dowco 200 against imported fire ant, 242
Dowco 214 against western tussock moth, 54
Draeculacephala portola, 1347
Drosophila, chemosterilization, 159
Drosophila bipunctata, 160
busckii, 160
Drosophila melanogaster, 159, 865, 875
and gamma radiation, 257
sterilization, 753
Drosophila spp., 247
Dry diet flakes, use in rearing tobacco budworm, 817
DS-15647 against tea scale, 1163
Duomeen against mosquitoes, 697
duPont 1410 against: black cutworm, 205
pecan weevil, 502
duPont 1642 against: crickets and cabbage loopers, 219
darksided cutworm, 201
fall armyworm, 1287
tobacco budworm, 517
Durmont E against imported fire ant, 242
Dursban against: ladybird beetle, 961
Stethorus punctum, 1197
Dust desiccants and films, 280
Dust gun, double-nozzle, 1335
DuTer against tobacco hornworm, 582
D-Vac, sampling tool for alfalfa weevil, 1328
Dyfonate against: cowpea curculio, 727
garden symphylan, 822
grain sorghum pests, 774
pecan weevil, 502
sugarcane borer, 803
Dylex K-43 against imported fire ant, 242
Dylex K-45 against imported fire ant, 242
Dylox against Japanese beetle, 478
Dysdercus cingulatus, ovarian growth in by tepa, 20

E

Eastern spruce gall aphid, control with carbofuran, 791
Ecdysteroid, effects on Mexican bean beetle, 64
EDB against pecan weevil, 502
Eggplant, Hawaiian fruit flies in, 937
Egyptian cotton leafworm, insecticide evaluation, 1293
Elasmopalpus lignosellus, 1233
Elder shoot borers, sex attractiveness, 814
Electric grid traps, tobacco budworm nocturnal activity in, 543
Electromagnetic radiant energy, fly responses to, 95, 1269
Electrophysiological screening of queen substance in honey bees, 33
Elm leaf beetle, control, 162
Elm spanworm, carbaryl and trichlorfon effects on, 271
insecticide toxicity to larvae, 627
insecticides against, 1187
pheromone activity, 808
suppression, 983
Empoasca fabae, 863, 1298
spp., 880
Endod against Douglas-fir tussock moth, 1256
Endosulfan against: aphids, 171
army cutworm, 299
Brassolis sophorae, 178
cabbage looper, 339
collard insects, 1159
corn leaf aphid, 464
cowpea curculio, 728
fall armyworm, 1288
fruit flies, 838
lilac borer, 248
potato leaf roll, 171
Endosulfan + EPN against Egyptian cotton leafworm, 1294
Endosulfan + fenitrothion against Egyptian cotton leafworm, 1294
Endosulfan + methyl parathion against Egyptian cotton leafworm, 1293
Endrin, LD_{50} values, 211
Endrin against: cutworm, 205, 445
Egyptian cotton leafworm, 1296
fruit flies, 838
greenbugs, 946
southern armyworm, 69
Spodoptera littoralis, 590
sugarcane borer, 249
tobacco budworm, 9
turbicid worm, 72
Endrin + dicrotophos against Egyptian cotton leafworm, 1294
Endrin + leptophos against Egyptian cotton leafworm, 1294
Endrin + methyl parathion against Egyptian cotton leafworm, 1294
Endrin + monochrotophos against Egyptian cotton leafworm, 1293
Engelmann spruce, solar heat in, 401
English grain aphid effect on wheat yield, 1326
Ennomos subsignarius, 271, 627, 808, 983, 1187
ENT-3346 against boll weevil, 796
ENT-24915 against *Anopheles albimanus*, 613
ENT-24916 in study of *Anopheles albimanus*, 305, 613
ENT-26316 against *Anopheles albimanus*, 613
ENT-33972 activity vs. European corn borer, 1315
ENT-50003 against *Anopheles albimanus*, 613
ENT-50004 against *Anopheles albimanus*, 613
ENT-50042 against *Anopheles albimanus*, 613
ENT-50172, effects on potato aphid, 964
ENT-50761 against *Anopheles albimanus*, 613
ENT-50787 in study of *Anopheles albimanus*, 305, 613
ENT-50882 against *Anopheles albimanus*, 613
ENT-50918 against *Anopheles albimanus*, 613
ENT-50994 against *Drosophila*, 159
ENT-51146 against *Drosophila*, 159
ENT-51160 against boll weevil, 796
ENT-51253 against *Anopheles albimanus*, 613
ENT-51254, against house fly, 24
in study of *Anopheles albimanus*, 305, 613
ENT-51454, effects on potato aphid, 964
ENT-61342 against *Anopheles albimanus*, 613
ENT-61496 against boll weevil, 796
ENT-61499 against boll weevil, 796
ENT-61502 against boll weevil, 796
ENT-61527 against boll weevil, 796
ENT-61554 against boll weevil, 796
ENT-61580 against *Anopheles albimanus*, 613
ENT-61581 in study on *Anopheles albimanus*, 305, 613
ENT-61584 against *Anopheles albimanus*, 613
ENT 61585, against house fly, 24
in study of *Anopheles albimanus*, 305, 613
ENT-61586 against *Anopheles albimanus*, 613
ENT-61587 against *Anopheles albimanus*, 613
ENT-61598 against boll weevil, 796
ENT-61611 against boll weevil, 796
ENT-61645 against boll weevil, 796
ENT-61743 against boll weevil, 796
ENT-61749 against boll weevil, 796
ENT-61833 against boll weevil, 796
ENT-61834 against boll weevil, 796
ENT-61888 against boll weevil, 796
ENT-61947 against boll weevil, 796
ENT-61967 against boll weevil, 796
ENT-62002 against boll weevil, 796
ENT-62033 against boll weevil, 796
ENT-62035 against boll weevil, 796
ENT-62058 against boll weevil, 796
ENT-62059 against boll weevil, 796
ENT-62060 against boll weevil, 796
ENT-62077 against boll weevil, 796
ENT-62078 against boll weevil, 796
ENT-62089 against boll weevil, 796
ENT-62101 against boll weevil, 796
ENT-62111 against boll weevil, 796
ENT-62112, effects on potato aphid, 964
ENT-62126 against boll weevil, 796
ENT-62135 against boll weevil, 796
ENT-62136 against boll weevil, 796
ENT-62163 against boll weevil, 796
ENT-62184 against boll weevil, 796
ENT-62205 against boll weevil, 796
ENT-62206 against boll weevil, 796
ENT-62207 against boll weevil, 796
ENT-62208 against boll weevil, 796
ENT-62215 against boll weevil, 796
ENT-62216 against boll weevil, 796
ENT-62244 against boll weevil, 796
ENT-70119, 70348, 70349, 70350, 70351, 70356, 70357, 70369, 70438, 70439, 70440, 70441 activity vs. European corn borer, 1315
Eotetranychus carpini borealis, 227
Epilachna varivestis, 30, 64
Episimus argutanus, catches in sex-pheromone traps, 1345
Epitrimerus pyri, 227

Epitrix cucumeris, 863
hirtipennis, 116, 480, 1226
EPN, and cotton foliage, 332
EPN against: bagworms, 941
boll weevil, 499
Egyptian cotton leafworm, 1293
fruit flies, 837
pecan weevil, 497
tobacco budworm, 293, 517
EPN + methyl parathion against boll weevil, 499
Equipment for collection of *Anastrepha suspensa*, 567
Erratum, 1073
Esters, a new acaricide, 584
Estigmene acrea, 807, 1348
variatus, 1348
Ethion against: fruit flies, 838
restless bush cricket, 560
tea scale, 533
ticks, 131, 1275
turbicid worm, 72
Ethyl chrysanthemumate attractant for coconut rhinoceros beetle, 591
Ethylene oxide against brown dog tick, 1285
Eublaberus posticus, 859
Eulachnus agilis, probing behavior, 651
Eulimnadia sp., 917
Euonymus, twospotted spider mite control on, 997
European chafer, trapping, 1225
European corn borer, activity vs. juvenile hormones, 1315
control, 253
damage on field corn, 1195
European elm bark beetle bioassay and GLC assay, 79
European red mite, control, 237
*p*H importance on, 1000
Euschistus impictiventris, 189
tristigmus, 519
Euzesta notata, 910
Euxoa auxiliaris, 299, 1000
messoria, 199
orchrogaster, 203, 444
Evergestis rimosalis, 1159
Excreta, insect, collecting, 268
Exitianus exitiosus, 880, 1347

F

Face fly, control cost, 693
Face fly response to electromagnetic radiant energy, 1269
Fall armyworm, control on sweet corn, 973
Fall webworm, mating behavior, 1006
Famphur against ticks, 131, 1275
Fannia canicularis, 1281
pusio, 139
Fatty diamines, larval activities, 697
Feeding, insecticides to cows, 1077
Rabon to cows, 135
stimulant for sweetclover weevil, 1037
Feltia subterranea, 114, 999
Fenitrothion, and cotton foliage, 332
Fenitrothion against: bagworms, 941
Brassolis sophorae, 178
corn leaf aphid, 465
Egyptian cotton leafworm, 1294
fall armyworm, 1288
fruit flies, 838
Spodoptera littoralis, 590
western tussock moth, 54
Fensulfothion against: *Brassolis sophorae*, 178
onion thrips, 975
wireworms, 1205
Fensulfothion-disulfoton against seedcorn maggot, 1192
Fenthion, ovicidal effect on house crickets, 1029
Fenthion against: cattle grubs, 429
Douglas-fir tussock moth, 1256
fruit flies, 838
Hypoderma, 439
Japanese beetle, 478
ticks, 131, 1275
Fertility recovery in irradiated codling moths, 388
Fidiobia rugosifrons, parasitism of *Hypera postica* by, 1059
Field corn, European corn borer damage on, 1195
Filbert aphid, dissemination of *Kampimodromus* by, 575
Films and dust desiccants, 280
Fiorinia theae, 533, 1163
Flies, control on laying hens, 139
resmethrin against, 1281
Flight, and dispersal of stable fly, 410
behavior of codling moth, 883
propensity of sterilized flies of Mediterranean fruit fly, 1261
Flour, phosphine fumigation against insects in, 1209
Flour beetle, species radiation sensitivities, 251
Flying, measuring insect, 820
Foliar sprays to control aster leafhopper, 265
Folimat against: *Brassolis sophorae*, 178
restless bush cricket, 560
Folsomia candida in soil assayed with, 855
Fonofos against wireworms, 1205
Food additives, *Tribolium ovicides*, 765
Forage, Gardona degradation on, 312
Forest tent caterpillar control, 574
Form-fill-seal machine, diet filler for, 1340
Formamidine acaricides, toxicity to *Boophilus microplus*, 1245
Formetanate against: green peach aphid, 460
restless bush cricket, 560
Formetanate monohydrochloride against: apple aphid, 238
European red mite, 238
Frankliniella sp., 189
Frontalure for suppression of southern pine beetle, 897
Fruit flies, pineapple resistance to, 522
FS + dimethoate, disulfoton, carbofuran, and aldicarb against tea scale, 533
Fumigants for brown dog tick control, 1283
Fumigation, by chemosterilization, 23
chambers, methyl bromide application to, 992
Fundal against: *Platynota idaeusalis*, 991
Stethorus punctum, 1197
Fungi isolated from gypsy moth, 823
Furadan against weevils, 1219

G

GAF 254 against imported fire ant, 242
Galecron against: collard insects, 1159
Stethorus punctum, 1197
Galleria mellonella, 37
Gamma radiation, flour beetle sensitivity to, 251, 1318
Japanese beetle sterilization with, 1047
sensitivity of Indian meal moth, 461
Tenebrio sensitivity to, 1175
Gamma radiation and: Hawaiian fruit flies, 937
recovered fertility in codling moths, 388
Gamma radiation effects on: almond moth, 745
Drosophila melanogaster, 257
Gamma radiation of: *Acarus siro*, 82
pink bollworm eggs, 475
pink bollworm larvae, 731
Garden symphylan, granular insecticide application to control, 822
Gardona, degradation on forage, 312
evaluation, 219
metabolism by gypsy moth larvae, 6
residues in grain, 315
toxicity to *Malacosoma* spp., 630
Gardona against: bagworms, 941
black carpet beetle, 547
bronze birch borer, 258
dark-sided cutworm, 201
Egyptian cotton leafworm, 1293
elm spanworm, 628
fall armyworm, 1287
gypsy moth, 544
Japanese beetle, 478
pecan weevil, 502
Platynota idaeusalis, 991
P. stultana, 156
restless bush cricket, 560
ticks, 131, 1275
tobacco hornworm, 582
western tent caterpillar, 996
western tussock moth, 54
wheat insects, 485
white peach scale, 1292
Gardona-dichlorvos to control Angoumois grain moth, 1353
Gardona + Tween against *Platynota idaeusalis*, 991
GC-6506 against tobacco flea beetle, 481
Geigy 3643 against Egyptian cotton leafworm, 1293
Gelling technique for *Spodoptera littoralis* rearing, 565
Genite against whitefringed beetle, 284
Geocoris pallens, 1313
punctipes, 623
spp., 151
German cockroach, efficacy of chlorpyrifos and boric acid powder, 1075
pyrethrins resistance in, 27
resistance, 44
Gibberellic acid in pollen substitute for honey bees, 1351
GLC assay and European elm bark beetle, 79
Goats, biting louse control on, 133
Gossypol in cotton buds, 327
Grain, Gardona and dichlorvos residues in, 315
Grain sorghum, greenbug damage on, 1181

Phyllophaga damage and control in, 773
spider mites associated with, 1220
Graminella nigrifrons, 1271, 1346
Granary weevil, growth responses, 681
Granulosis virus vs. *Bacillus thuringiensis* against green cloverworm, 1137
Grape berry moth sex-pheromone traps, *Episimus argutanus* catches in, 1345
Grape leaffolder, control, 157
Grape pest control, 154
Grapholitha molesta, 1307
Graphognathus peregrinus, 283
spp., 225, 581
Grasshoppers, anesthesia effect on, 538
control, 987
Greater wax moth, parthenogenesis in, 37
Green beans, lygus bug rearing on, 810
Green cloverworm, biological synopsis, 665
granulosis virus vs. *Bacillus thuringiensis* against, 1137
Green fruitworms, bionomics and life history, 364
Green peach aphid, carbaryl against, 1226
control, 170
insecticide trials on cabbage and squash, 459
Greenbug, damage on sorghum, 1181
foliar treatments against, 945
insect growth regulators on, 847
management on sorghum, 945, 953
resistance in sorghum, 1131
treatments for corn leaf aphid control, 953
Greenhouse whitefly, control in tomatoes, 1223
Growth of cheese skipper, 1252
Growth regulators, against stored-product pests, 1167
Growth regulators on: citrus mealybug, 851
greenbug, 847
Growth responses of *Sitophilus* larvae, 681
GS-13005 against cowpea cureulio, 727
Gulf Coast tick, susceptibility to chlorpyrifos, 1095
Gynaikothrips ficorum, 1217
Gypsonoma haimbachiana, 1334
Gypsy moth, *Bacillus thuringiensis* against, 183
box trap for capturing, 359
cause of oak mortality, 639
control, 1357
fungi isolated from, 823
insecticide toxicity to larvae reared on artificial diet, 544
insecticides against, 1187
metabolism of Gardona by larvae, 6
suppression, 983
trichlorfon and carbaryl effects on, 271
Gyrinus punctellus, 917

H

Habrobracon juglandis, reproduction and analogues, 319
Haematobia irritans, 290, 693, 711, 820, 1077, 1081, 1099, 1239
Halogenated organophosphate activity, 595
Hapithus agitator, 559
Harlequin bug, acephate and diazinon toxicity to, 827
Harpalus pennsylvanicus, 1154
Harrisina brillians, 194
Hawaiian fruit fly, gamma irradiation of, 937
HCS-3260 against wireworms, 1205
HD-1 against sugarcane borer, 249
Heat effect on corn earworm egg hatch, 285
Helicella infesting rosemary seeds, 935
Heliothis, seasonal abundance on cotton, 524
spp., 151, 260, 274
spp., cotton related to overwintering, 515
virescens, 9, 15, 211, 232, 272, 292, 356, 388, 419, 450, 470, 480, 515, 516, 517, 523, 527, 543, 657, 739, 807, 817, 979, 1067, 1218, 1226
virescens, ^{32}P in eggs and larvae, 1071
zea, 114, 187, 211, 232, 272, 284, 285, 286, 296, 356, 419, 473, 515, 516, 523, 527, 534, 657, 739, 807, 973, 989, 1000, 1213, 1340
zea, assay of ULV spray deposits on, 586
(virus) + carbon against tobacco budworm, 981
(virus) + Triton X-100 against tobacco budworm, 980
Helochara communis, 880
Helophorus sp., 917
Hemel hydrochloride against *Drosophila*, 159
Hemerocampa pseutodtsugata, 1255
vetusta, 53
Hemiptera, 20, 190, 265, 269, 463, 467, 533, 551, 552, 570, 805, 810, 827, 1312
Hemiptera (Homoptera), 651, 847, 851, 1163, 1181, 1223, 1226, 1290, 1298, 1303, 1326, 1331, 1333, 1346, 1354
Hempa, effects on potato aphid, 964
Hempa against: *Anopheles albimanus*, 613
house fly, 24
Hens, fly control on, 139
Heptachlor against: *Brassolis sophorae*, 178
fall armyworm, 1288
fruit flies, 838
Japanese beetle, 521
southern armyworm, 69
turbicid worm, 72
white grubs, 775
Heptachlor epoxide against white-fringed beetle, 284
Herbicides, toxicity to screwworm, 529
Hercules 9007 against *Heliothis*, 273
Hercules 9418 against *Heliothis*, 273
Hercules 9427 against *Heliothis*, 273
Hercules 16806 against *Heliothis*, 273
Hercules 17643 against *Heliothis*, 273
Hercules 17645 against *Heliothis*, 273
Herpetogramma bipunctalis, 114
Hetrotex against Egyptian cotton leafworm, 1293
Hexalure, attraction, inhibitors of, 1263
dispensers and pink bollworm, 377
to trap pink bollworm, 1349
Hippelates collusor, 1339
attractants for, 1089
Hippelates eye gnat attractants, isolation and attractancy of, 1339
Hippelates spp., 1339
spp., potency, 1055
Hippodamia convergens, 623
Homoptera, 170, 181, 459, 533, 552, 570, 791, 811, 877, 945, 953, 963, 1019, 1111, 1131, 1135
Honey bee, *Bacillus larvae* pathogenicity to, 901
electrophysiological screening of queen substance in, 33
gibberellic acid in pollen substitute for, 1351
Nosema disease transmission in, 777
size of comb, 1234
timing of placement of colonies, 370
Hormones against tobacco budworm, 833
Horn fly, control, 290
control cost, 693
insecticides to disrupt life cycle, 1239
juvenile hormone against, 1099
Host plants, of aphids, 552
preference of aster leafhopper, 877
Hosts of tomato pinworm, 109
House cricket, ovicidal effect of fenthion on, 1029
House dust mites, distribution, 998
House fly, and chlordimeform, 75
apholate effect on, 609
breeding, 909
chemosterilants effective in, 1007
chemosterilants for, 38, 354
chemosterilization of, 23
control in poultry farm, 927
coumaphos against, 1077
development inhibitors of larvae, 819
effect of aging and population density on, 993
juvenile hormone against, 1099
non-repellancy of dichlorvos, 1006
predicting attraction of lamps, 95
rabon against, 1077
response to electromagnetic radiant energy, 1269
ronnel against, 1077
Hyadaphis pseudobrassicae, 1019, 1303
Hyalella azteca, 917
Hyaliodes harti, 1202
vitripennis, 1202
Hydrophilus triangularis, 917
Hylemya antiqua, 975
brassicae, 1153
platura, 1191
Hylobius pales, 530, 868, 1219
diet, 841
Hymenia recurvalis, 114
Hymenoptera, 33, 164, 241, 262, 288, 295, 319, 370, 454, 550, 777, 785, 803, 807, 901, 903, 1097, 1121, 1234, 1351
Hypera postica, 164, 309, 1023, 1117, 1328
egg parasitism, 1059
Hyphantria cunea, 1006
Hypocholesterolemic agents and southwestern corn borer, 1336
Hypoderma bovis, control, 439
lineatum, control, 439
in white mice, 432
Hypoderma spp., 429, 432

I

Idofenphos against *Brassolis sophorae*, 178

Imidan against: aster leafhopper, 265
codling moth, 1140
elm spanworm, 628
fruit flies, 837
gypsy moth, 544
Hypoderma, 439
Japanese beetle, 478
pear psylla, 1141
pecan weevil, 497
Platynota idaeusalis, 991
P. stultana, 156
southern armyworm, 69
Stethorus punctum, 1197
ticks, 131, 1275
white peach scale, 1292
Imidan + oil against: codling moth, 1140
pear psylla, 1141
Imported fire ant, control, 241
eradication with Mirex bait, 785
separating, 295
Improvements in diet for *Chrysopa carnea* rearing, 336
Indalone, temperature effect on protection time, 438
Indian meal moth, gamma radiation sensitivity, 461
in untreated almonds, 741
oviposition, 167
synthesis and bioassay of sex pheromone, 845
Indopol polybutenes control two-spotted spider mite, 997
Inert-atmosphere generators for insect control in wheat, 511
Infrared color film for surveying for citrus blackfly, 190
Inhibitors, insect developmental, 913, 917, 923
of hexalure's attraction, 1263
Inoculating device for packaging machine, 296
Insect-collecting machines, separating boll weevils from samples, 1332
Introduced pine sawfly, rearing, 262
Iodofenphos against fall armyworm, 1287
Isobenzan against: *Folsomia candida*, 855
ticks, 131, 1275
Isodrin against fruit flies, 838
Isolan against fruit flies, 837
Isomer content and oriental fruit moth captures, 1307

J

Japanese beetle, attractants for, 1103
emergence pattern, 1356
insecticides to control, 477
lure, 373, 396, 1236
phenethyl esters as attractants, 369
resistance to cyclodiene insecticides, 520
shielded traps to capture, 562
shipping, 294
sterilization by gamma radiation, 1047
trap, 275
Japanese black pine, Nantucket pine tip moth control in, 1236
Japanese quail busulfan toxicity to, 341
Juvegens as control agent against Mexican bean beetle, 30
Juvenile hormone, against cattle biting louse, 127
synergism of isomers of, 793
Juvenile hormone-active, Altosid, 707
compounds in stable fly medium, 301
Juvenile hormone activity, compounds for, 703
vs. European corn borer, 1315
Juvenile hormone activity on: *Apanteles rubecula*, 643
citrus mealybug, 851
greenbug, 847
Juvenile hormone(s), against Diptera, 1099
analogue for insect control, 277
Juvenile hormone effect on: arthropods, 623
spruce budworm pupae, 1033
Juvenile hormone, in tobacco budworm, 15
toxicity to aphids, 1019

K

Kampimodromus aberrans, dissemination, 575
Keiferia lycopersicella, 109
Kepone, American cockroach feeding on bait, 1277
Khapra beetle, olfactory responses, 261
Knox gelatin against imported fire ant, 242

L

Labels, magnetic recovery, 903
Laccophilus sp., 917
Lactic acid and compounds attracting yellowfever mosquito, 329
Lampronota pleuralis, 249
Landrin, evaluation, 219
Landrin against: darksided cutworm, 201
western tussock moth, 54
Larval activities of fatty diamines, 697
Lasioderma serricorne, 540, 1147, 1168
Laspeyresia pomonella, 227, 261, 374, 383, 388, 390, 412, 558, 883, 1139, 1201
Lauroyl-trichlorfon against Douglas-fir tussock moth, 1256
Layer houses, house fly control in, 927
LD_{50} values of methyl parathion and endrin, 211
Lead arsenate against: *Platynota idaeusalis*, 991
Stethorus punctum, 1197
Leaf area estimates, 104
Leaf-feeding insects, control on yellow-poplar, 1240
Leaf roller, suppression on potatoes, 170
Leafhopper, seasonal occurrence in coastal bermudagrass, 1346
Leeches, bloodsucking freshwater, control, 537
Lentils, *Bruchus lentis* in, 515
Lepidoptera, 6, 9, 15, 37, 53, 68, 109, 154, 157, 167, 177, 183, 194, 199, 203, 211, 232, 235, 247, 248, 249, 253, 260, 266, 271, 272, 274, 276, 278, 284, 285, 286, 292, 298, 299, 324, 339, 356, 359, 364, 374, 377, 383, 388, 390, 412, 418, 444, 450, 461, 470, 473, 475, 503, 515, 516, 517, 520, 523, 524, 527, 531, 534, 543, 544, 558, 565, 569, 574, 576, 581, 586, 589, 627, 629, 639, 665, 675, 685, 719, 731, 735, 739, 741, 745, 794, 801, 802, 808, 814, 817, 823, 833, 845, 907, 941, 973, 979, 983, 989, 991, 992, 995, 999, 1006, 1033, 1049, 1067, 1071, 1113, 1129, 1137, 1139, 1187, 1195, 1215, 1218, 1220, 1224, 1226, 1231, 1233, 1236, 1255, 1258, 1263, 1287, 1293, 1307, 1315, 1333, 1336, 1343, 1345, 1349, 1353, 1357
Lepidoptera, phenylacetaldehyde attractant for, 114
Lepidopterous larvae, collecting, 818
Leptofos against tobacco flea beetle, 826
Leptophos, residues in wheat, 1321
Leptophos against: black cutworms, 205
boll weevil, 499
bollworm, 517
cabbage looper, 276
codling moth, 1140
corn earworm, 974
corn leaf aphids, 948
cowpea curculio, 728
cutworm, 201, 445
elm spanworm, 1188
Egyptian cotton leafworm, 1294
fall armyworm, 974
green peach aphid, 460
greenbugs, 947
gypsy moth, 1188
pear psylla, 1141
Platynota stultana, 156
sugarcane borer, 803
tobacco budworm, 517
tomato fruitworm, 474
Lesser cornstalk borer, control in sweet sorghum, 1233
Lesser grain borer, rice resistance to, 1005
Lesser peachtree borer, extracting pupae from trays, 247
Lettuce, phorate and aldicarb in, 573
rearing tarnished plant bug on, 1354
Leucocytozoon smithi control on turkeys, 426
Life cycle of horn fly, insecticides to disrupt, 1239
Life history of: lilac borer, 248
Lithophane antennata, 364
white peach scale, 1290
Life stage of tobacco hornworm, prolongation, 1231
Light-dimming system in environmental chambers, 1334
Light-intensity control for insects, 988
Lilac borer, life history and control, 248
Limnophilus sp., 1
Lindane, penetration in plants, 344
Lindane against: *Adelges abietis*, 811
bark beetles, 208
body lice, 119
Brassolis sophorae, 178
corn leaf aphid, 464
fall armyworm, 1288
fruit flies, 838
German cockroach, 46
seedcorn maggot, 1192
southern armyworm, 69
ticks, 131, 1275
turbicid worm, 72
Liriomyza munda, 1001
influence on snap bean foliage, 539
Lissorhoptrus oryzophilus, 572
Lithophane antennata, life history, 364

laticinerca, 364
unimoda, 364
Loblolly pine, and Monitor, 867
carbofuran-clay root dip to protect, 1219
damaged by *Phyllophaga*, 541
Lone star tick, acaricide tests, 1274
Luecania humidicola, 739
Lure, for Japanese beetles, 373
elder shoot borers as, 814
use of Japanese beetles as, 396
Lygus bug, rearing on green beans, 810
screening cotton for nonpreference, 1312
Lygus hesperus, 187, 1312
lineolaris, 623, 1348, 1354
spp., 187
Lymantria obfuscata, attractants for, 1215
Lyophilized rearing medium for bioassays, 1224

M

Macrosiphum avenae, 1326
euphorbiae, 863, 1019
liriodendri, 1241
Macrosteles fascifrons, 265, 877, 1271
Mahasenal nitobei, 941
Maize chlorotic dwarf virus, transmission, 1271
Maize weevil, growth responses, 681
Malacosoma c. californicum, 629
c. lutescens, 995
disstria, 574
Malathion, boll weevil failure to resist, 791
effects on flour beetle, 967
Malathion resistance in: body lice, 118
Cadra cautella, 1049
Plodia interpunctella, 1049
Malathion-resistant Indian meal moth, 461
Malathion toxicity to *Malacosoma* spp., 630
Malathion-treated: almonds, moth competition in, 741
Indian meal moth, 167
Malathion, ULV, arthropod drift in irrigation canal following, 1267
Malathion against: almond moth, 741
bagworms, 941
boll weevil, 499, 527
Brassolis sophorae, 178
corn earworm, 974
corn leaf aphid, 464, 950
cowpea curculio, 729
elm spanworm, 628
fall armyworm, 527, 974, 1288
fruit flies, 838
German cockroach, 46
grasshoppers, 987
greenbugs, 947
Indian meal moth, 741, 1305
pecan weevil, 497, 502
raisin moth, 741
redheaded pine sawfly, 288
restless bush cricket, 560
southern armyworm, 527
ticks, 131, 1275
tobacco budworm, 9, 517, 527
turbicid worm, 72
twospotted spider mite, 527
western blackheaded budworm, 274
western tent caterpillar, 996
western tussock moth, 54
white peach scale, 1292
Malathion and: cotton foliage, 332
mortality of rice weevil, 486
Malathion + DDT + methyl parathion against Egyptian cotton leafworm, 236
Malathion + methyl parathion against boll weevil, 499
Maldene against Egyptian cotton leafworm, 1293
Mallophaga, 127, 133, 703
Manduca sexta, 480, 581, 719, 988, 1173, 1231
Mating, activity of melon fly, 661
of bollworms and tobacco budworms, 356
reduction of black carpet beetle, 1327
MCA-600 against tobacco hornworm, 582
Measuring insect flying, 820
Mecarbam against: *Brassolis sophorae*, 178
fall armyworm, 1288
Mediterranean fruit fly, cage for, 1342
insecticides against, 837
investigating sex pheromones, 812
mating behavior, 583
propensity of sterilized flies to flight, 1261
white-eyed mutant of, 560
Megachile rotundata, 454
Megacyllene robiniae, 1347
Megatomic acid and mating reduction of black carpet beetle, 1327
Melanophila californica, 208
Melanoplus bivittatus, 987
differentialis, 987, 1267
femurrubrum, 987
sanguinipes, 538
Melon aphid, 1111
Melon fields, house fly breeding in, 909
Melon fly, attraction, 112
insecticides against, 837
ovipositional attractant, 1355
pineapple resistance to, 522
reproduction, 661
yellow-eyed mutant of, 792
Mesurol against ladybird beetle, 961
Metabolism of: *Anopheles albimanus*, 305
Gardona by gypsy moth larvae, 6
Monitor, 867
phorate, 863, 873
R-3828, 119
Metarrhizium anisopliae against pecan weevil, 723
sp., 665
Metathion against *Acarus* and *Tyrophagus*, 1237
Metepa, against *Anopheles albimanus*, 613
sterilization of olive fruit fly, 55
Methiotepa against *Anopheles albimanus*, 613
Methomyl, residues on tobacco, 197
toxicity to *Malacosoma* spp., 630
Methomyl against: bagworms, 941
bollworm, 517
Brassolis sophorae, 178
cabbage looper, 276, 339
collard insects, 1159
corn earworm, 974
cowpea curculio, 728
cutworm, 445
Douglas-fir tussock moth, 1256
Egyptian cotton leafworm, 1294
fall armyworm, 974, 1288
green peach aphid, 460
greenhouse whitefly, 1223
pecan weevil, 502
Platynota stultana, 156
restless bush cricket, 560
sugarcane borer, 803, 1114
tea scale, 533, 1164
tobacco budworm, 293, 517, 980
tobacco flea beetle, 825
tobacco hornworm, 581
tomato fruitworm, 474
western tent caterpillar, 996
western tussock moth, 54
Methoxychlor, evaluation, 219
Methoxychlor against: aster leafhopper, 266
black carpet beetle, 547
darksided cutworm, 201
Douglas-fir tussock moth, 1256
fruit flies, 838
gypsy moth, 544
lilac borer, 248
turbicid worm, 72
Methyl bromide, against brown dog tick, 1284
application to fumigation chambers, 992
for quarantine control, 935
Methyl carbamate, synergism of juvenile hormone, 793
toxicity against bollworm and tobacco budworm, 272
Methyl demeton against corn leaf aphid, 464
Methyl parathion, effect on boll weevil, 224
LD_{50} values, 211
residual properties on alfalfa, 1117
Methyl parathion against: alfalfa weevil, 1118
aphids, 1304
boll weevil, 499, 527
corn earworm, 974
corn leaf aphid, 465, 948
cowpea curculio, 729
fall armyworm, 527, 974
fruit flies, 837
grasshoppers, 987
greenbugs, 948
pecan weevil, 497
southern armyworm, 69, 527
sugarcane borer, 1114
tobacco budworm, 293, 511, 527
turbicid worm, 72
twospotted spider mite, 527
Methyl parathion + Fundal against: corn earworm, 974
fall armyworm, 974
Methyl Trithion against fruit flies, 837
Metoposarcophaga sp., 1348
Mevinphos against: army cutworms, 299
cabbage looper, 339
cowpea curculio, 728
fruit flies, 838
greenbugs, 946
Platynota idaeusalis, 991
southern armyworm, 69
turbicid worm, 72
Mexacarbate, for mexicarbate, 1073
toxicity to *Malacosoma* spp., 630
Mexacarbate against: Douglas-fir tussock moth, 1256
elm spanworm, 628
fruit flies, 838
lone star tick, 1275
southern armyworm, 69
white peach scale, 1292

Mexican bean beetle, ecdysteroid effects on, 64
  juvegens as control agent, 30
MGK-Pyrocide against green peach aphid, 460
Microctonus aethiops, rearing, 164
Microvideo system applied to entomology, 816
Milk production and stable flies, 711
Mirex against imported fire ant, 785
Mixing pesticide with water, 1211
Mobam against: *Adelges abietis*, 811
  body lice, 119
  Japanese beetle, 478
Mobile facility for rearing insects, 245
Mocap against Japanese beetle, 479
Mocis latipes, 114
Moisture and corn earworm incubation, 284
MON-0147, 0856, 1311 against tobacco budworm, boll weevil, and twospotted spider mite, southern armyworm, 527
MON-0585 against mosquitoes, 913
Monitor, absorption, translocation, and metabolism, 867
Monitor against: cabbage looper, 276, 339
  collard insects, 1159
  cowpea curculio, 727
  Douglas-fir tussock moth, 1256
  green peach aphid, 460
  tobacco flea beetle, 826
Monocrotophos against: army cutworm, 299
  bollworm, 260
  Brassolis sophorae, 178
  cabbage looper, 276, 339
  collard insects, 1160
  corn earworm, 974
  cowpea curculio, 728
  Cuban laurel thrips, 1217
  fall armyworm, 974, 1287
  fruit flies, 838
  grasshoppers, 987
  greenbugs, 947, 955
  lesser cornstalk borer, 1233
  pecan weevil, 497
  southern armyworm, 69
  sugarcane borer, 803, 1114
  tobacco budworm, 293
  tobacco flea beetle, 825
  tobacco hornworm, 581
  turbificid worm, 72
Monocrotophos (Azodrin) against Egyptian cotton leafworm, 1294
Monochrotophos (Nuvacron) against Egyptian cotton leafworm, 1294
Morestan against ladybird beetle, 961
Morphology of cotton plants, 222
Mortality of: house crickets, 1029
  pink bollworm, 531
  spruce beetle, 401
Morton Polymer emulsion AA-421 and MC-299 against imported fire ant, 242
Mosquito species, inhibitors, 913
Mosquitoes, aerosol droplet size impinging on, 1085
  economic effect on cattle, 1081
Movement of phorage, 873
MTDD against stored-grain insects, 277
Mulch influence on *Liriomyza munda*, 539
Munger cage, modifications for arthropod studies, 1349
Murgantia histrionica, 827
Musca autumnalis, 694, 1077, 1269, 1348
  domestica, 23, 38, 75, 95, 139, 146, 268, 354, 609, 631, 819, 909, 927, 993, 1006, 1007, 1077, 1081, 1099, 1250, 1269, 1281
Mustard, aphid control on, 1303
  leaf area estimates, 104
Myzocallis coryli, 575
Myzus persicae, 170, 291, 459, 847, 1135, 1226, 1331

N

N-2596 against: collard insects, 1159
  cutworm, 205, 445
  darksided cutworm, 202
  seedcorn maggot, 1191
  tobacco flea beetle, 826
Nabis spp., 151, 665
Naled against: cabbage looper, 339
  fruit flies, 838
  tobacco hornworm, 582
  western tussock moth, 54
NC-6897 against: *Acarus* and *Tyrophagus*, 1237
  tobacco flea beetle, 826
Nemacide against cabbage maggot, 1154
Nemacure against tea scale, 1163
Nematode associated with *Pseudopityophthorus pruinosus*, 259
Neodiprion lecontei, 288
Neoplectana dutkyi against pecan weevil, 723
Neoseiulus fallacis, 1342
  toxicity of apple orchard herbicides to, 1342
Nesosteles neglecta, 1346
Neuroptera, 336
Nezara viridula, 269, 519
  Amyotea malabarica predator of, 551
NIA-18739 against Douglas-fir tussock moth, 1256
NIA-24110, toxicity to *Malacosoma* spp., 630
NIA-24110 against: boll weevil, 527
  elm spanworm, 628
  tobacco budworm, 527
  twospotted spider mite, 527
NIA-26021 against: Douglas-fir tussock moth, 1256
  green peach aphid, 460
Nitrate reduction by *Bacillus larvae*, 901
Nonresistance of western spruce budworm to Zectran, 801
Nosema disease, transmission in bees, 777
Nosema necatrix against tobacco budworm, 981
Notonecta unifasciata, 917

O

Oak mortality from gypsy moth, 639
Obituaries, Willard Ross Allen, 1242
  Donald Louis Collins, 1359
  Harold Rodney Dodge, 1358
  Richard William Fay, 829
  Jean Luther Laffoon, 831
  William Moore, 1009
  John Robert Parker, 588
  Henry Byron Peirson, 1360
  Alvah Peterson, 1243
Odontopus calcealus, 1241
Olfactory responses of khapra beetle, 261
Oligonychus pratensis, 1220
  stickneyi, 1220
Olive fruit fly, sterilization, 55
Omite against: apple aphid, 238
  European red mite, 238
Onion thrips, suppression with soil treatment, 975
Oocencyrtus kuwanai, 272
Ophion sp., 1348
Oriental fruit fly, insecticides against, 837
  pineapple resistance to, 522
Oriental fruit moth, factors influencing captures, 1307
Orius insidiosus, 665
  spp., 151
Orthemis sp., 917
Orthene against: collard insects, 1159
  Douglas-fir tussock moth, 1256
Ortho 9006 against *Adelges abietis*, 811
Ortho 15223 against ladybird beetle, 961
Orthoptera, 27, 44, 538, 559, 987, 1029, 1075, 1143, 1228, 1277
Orthosia hibisci, 364
Oryctes rhinoceros, 591, 1216
Oryzaephilus mercator, 541, 1168, 1305
  surinamensis, 540, 1168
  surinamensis, sensitivity to Cesium-137, 605
Ostrinia nubilalis, 253, 735, 1195, 1224, 1315
Ouabain against American cockroach, 1228
Oulema melanopus, 800
Ovarian inhibition by tepa in *Dysdercus cingulatus*, 20
Overwintering of: *Chelonus blackburni*, 807
  cotton pests, 657
  tobacco flea beetle, 116
Oviposition cages, comparing, 810
Oviposition of: boll weevils, 566
  Heliothis on cotton stocks, 418
  screwworm, 422
  tropical horse tick, 125
Ovipositional response of Indian meal moth, 167
Oxydemetonmethyl against: aphids, 171, 1304
  elm leaf beetle, 163
  fruit flies, 838
  green peach aphid, 460
  gypsy moth, 544
  pecan weevil, 497
  potato leaf roll, 171
  white peach aphid, 1292
Oxythioquinox acaracide, studies with twospotted spider mite, 1041

P

^{32}P in *Heliothis virescens* eggs and larvae, 1071
Pachylobius piciforus, 1219
Packaging machine, inoculating device for, 296
Padan against: bagworms, 941
  Douglas-fir tussock moth, 1256
Palorus subdepressus, 1318

Panonychus ulmi, 227, 237, 961, 1000, 1197
Papaya, Hawaiian fruit flies in, 937
Paracantha culta, 1267
Paraffin wax against imported fire ant, 242
Paralobesia viteana, 1345
Paramyelois transitella, 387, 393
Paraphlepsius continuus, 1347
Parasarcophaga argyrostoma, 139
Parasitization of *Hypera postica* eggs, 1059
Parathion against: aster leafhopper, 266
corn leaf aphids, 948
European corn borer, 253
fruit flies, 838
greenbugs, 946
pecan weevil, 502
Platynota idaeusalis, 991
restless bush cricket, 560
southern armyworm, 69
tobacco budworm, 293, 980
turbicid worm, 72
white peach scale, 1292
Parathion + endosulfan against aphids, 1304
Parathion + lead arsenate against *Platynota idaeusalis*, 991
Parathion + methyl parathion against: corn earworm, 974
fall armyworm, 974
Parathion + Tween against *Platynota idaeusalis*, 991
Parthenogenesis in greater wax moth, 37
Patasson luna, parasite of *Hypera postica*, 1059
Pathogenicity to honey bees of *Bacillus larvae*, 901
Pea aphids, Cyolane and Cytrolane against, 181
Pea leaf roll virus, aphid transmission by aphids, 1331
Peanuts, thrips resistance in, 91
Pear, control of codling moth and pear psylla on, 1139
status of pests, 227
Pear psylla control on pears, 1139
Pecan trees, pecan weevil sampling in, 519
Pecan weevil, control, 501
sampling in pecan trees, 519
suppression with pathogens, 723
toxicity of insecticides to, 497
Pectinophora gossypiella, 187, 261, 266, 278, 298, 377, 475, 515, 531, 731, 807, 1263, 1349
Pediculus h. humanus, 118
Pen Cap E against aster leafhopper, 266
Penthoate against fruit flies, 837
Pericoma sp., 917
Peridroma saucia, 999
Periplaneta americana, 859, 1143, 1228, 1277
Perthane against: black carpet beetle, 547
fruit flies, 837
turbicid worm, 72
Pest status of pear pests, 227
Petroleums hydrocarbons, *Culex pipiens quinquefasciatus* resistance to, 288
pH spray importance on European red mite, 1000
Phacogenes ater, 249
Phenethyl esters as Japanese beetle attractants, 369
Phenethyl propionate (+ eugenol) attractant for Japanese beetle, 1103
Phenology and host relations of codling moth, 412
Phenylacetaldehyde attractant for Lepidoptera, 114
Pheromone, activity of elm spanworm, 808
measuring production in boll weevils, 809
Phorate, distribution and oxidation analogues, 530
effects in soybeans, 815
in lettuce, 573
metabolism and translocation in soils, 863
movement and metabolism, 873
western corn rootworm resistance to, 1015
Phorate against: aphids, 171
Brassolis sophorae, 178
corn leaf aphid, 464, 948
European corn borer, 253
fall armyworm, 1288
Folsomia candida, 855
fruit flies, 838
greenbugs, 948
potato leaf roll, 171
predaceous insects and spiders, 958
seedcorn maggot, 1192
southern armyworm, 69
tea scale, 1164
Phosalone against: aster leafhopper, 266
codling moth, 1140
corn leaf aphids, 948
Douglas-fir tussock moth, 1256
elm spanworm, 1188
green peach aphid, 460
greenbug, 948
gypsy moth, 1188
Japanese beetle, 478
ladybird beetle, 961
pear psylla, 1141
pecan weevil, 497, 502
Platynota idaeusalis, 991
P. stultana, 156
Stethorus punctum, 1197
Phosphamidon, effect on rice, 1107
Phosphamidon against: corn leaf aphid, 465
fall armyworm, 1288
fruit flies, 838
ladybird beetle, 961
Platynota idaeusalis, 991
restless bush cricket, 560
ticks, 131, 1275
Phosphine, fumigation against stored-product insects in flour, 1209
residues on soybeans, 800
Phostex against fruit flies, 837
Phosvel against: collard insects, 1159
Douglas-fir tussock moth, 1256
ladybird beetle, 961
pecan weevil, 497
Stethorus punctum, 1197
Phoxim against: cutworm, 445
Douglas-fir tussock moth, 1256
Egyptian cotton leafworm, 1294
elm spanworm, 628
fall armyworm, 1288
western tussock moth, 54
Phyllophaga, damaging loblolly pine, 541
bipartita, 542
crinita, damage and control in grain sorghum and wheat, 773
forsteri, 542
luctuosa, 542
micans, 541
prunina, 542
prununculina, 542
sp., 542
ulkei, 542
Phyllotreta cruciferae, 217
Phytocoptella avellanae, 575
Piccodiene 2215 against imported fire ant, 242
Piccolyte S-115-L against imported fire ant, 242
Pieris rapae, 1159
Apanteles rubecula activity on, 643
Pineapple, resistance to fruit flies, 522
Pink bollworm, and hexalure attraction, 1263
comparison of levels in cotton field, 278
device in trapping, 298
gamma irradiation of eggs, 475
larval irradiation, 731
mortality, 531
populations on St. Croix, 266
trap design and hexalure dispensers for, 377
trapping with hexalure, 1349
Piophila casei, 1252
Piperonyl butoxide, and toxicity to southern cattle tick, 1248
Pirazinon against fruit flies, 837
Pirimiphos-ethyl, evaluation, 219
Pirimiphos-ethyl against: black cutworm, 205
darksided cutworm, 201
fall armyworm, 1287
Pirimiphos-methyl against: *Acarus*, 1237
Acheta pennsylvanicus, 219
black cutworm, 205
codling moth, 1140
cutworm, 201, 445
fall armyworm, 1287
pear psylla, 1141
Tyrophagus, 1237
Pirimor against green peach aphid, 460
Pissodes strobi, 593
Planococcus citri, 851
Plant introductions of *Zea mays* and corn rootworm tolerance, 101
Planthopper, seasonal occurrence in coastal bermudagrass, 1346
Plastic sheeting vs. BL trap for European chafer trapping, 1225
Plathypena scabra, 665, 1137
Platynota idaeusalis, 1129, 1201
insecticide toxicity to larvae, 991
Platynota stultana control on grapes, 154
Plictran against: apple aphid, 238
European red mite, 238
Stethorus punctum, 1197
Plictran + Bio-Film against: apple aphid, 238
European red mite, 238
Plodia interpunctella, 167, 461, 741, 845, 1168, 1209, 1220, 1305
resistance to malathion, 1049
sex pheromone of, 1258
Plutella xylostella, 1159
Plywood overpacks, phosphine fumigation against insects in, 1209
Podesia s. syringae, 248
Polistes variatus, 1348
Polyamia rossi, 1347

Polyram against ladybird beetle, 961
Polyvinol alcohol against imported fire ant, 242
Popillia japonica, 275, 294, 369, 373, 396, 477, 520, 562, 1047, 1103, 1236, 1356
Population, development of *Acarus siro*, 82
dynamics, estimating, 104
Porthetria dispar, 6, 183, 261, 271, 359, 544, 639, 823, 983, 1187, 1357
Potato aphid, chemosterilant effects on, 963
Potato leafhopper and alfalfa clones, 1298
Potatoes, chlordane residues in, 1125
green peach aphid control on, 170
leaf roll suppression on, 170
wireworm control in, 1205
Poultry ranches, *Tinea fuscipunctella* distribution on, 685
PP062 against fall armyworm, 1287
PP-211 against wireworms, 1205
PP-511 protectant for raisins and walnuts, 1305
Predicting house fly attraction of lamps, 95
Primicid against seedcorn maggot, 1191
Prolongation of tobacco hornworm life stages, 1231
Promecarb against fall armyworm, 1288
Propoxur, American cockroach feeding on bait, 1277
cross-resistance of German cockroach to, 44
Propoxur against: *Acarus* and *Tyrophagus*, 1237
Brassolis sophorae, 178
fall armyworm, 1288
fruit flies, 838
grain sorghum pests, 774
seedcorn maggot, 1192
ticks, 131, 1275
white peach scale, 1292
Proteus vulgaris, 1253
Psammotettix lividellus, 880
spp., 880
Pseudaletia unipuncta, 114, 735, 779, 1000
Pseudaulacaspis pentagona, 1290
Pseudopityophthorus pruinosus, nematode associated with, 259
Pseudoplusia includens, 114, 1220
Psorophora confinnis, 1081
Psylla pyricola, 227, 1139
Pterostichus chalcites, 1155
Pyemotes spp., 107
Pyramat against fruit flies, 837
Pyrazoxon against fruit flies, 837
Pyrenone against: collard insects, 1159
pecan weevil, 519
Pyrenone Corn Spray against gypsy moth and elm spanworm, 983
Pyrethrins, cross-resistance of German cockroach to, 44
resistance in German cockroach, 27
toxicity to *Malacosoma* spp., 630
Pyrethrins against: Douglas-fir tussock moth, 1256
elm spanworm, 628
western blackheaded budworm, 274
western tent caterpillar, 996
western tussock moth, 54
Pyrethroids on gypsy moth and elm spanworm suppression, 983
Pyrethrum against fruit flies, 838
Pyridinol residues in turkeys, 715
Pyrocide against gypsy moth and elm spanworm, 983
Pyrolan against fruit flies, 837
Pyrrhalta luteola, 162

Q

Quadraspidiotus perniciosus, 227, 1354
Quarantine treatment with gamma irradiation, 937
Queen substance in honey bees, electrophysiological screening, 33

R

R-3828, metabolism by steer, 119
R-10044 against: apple aphid, 238
European red mite, 238
R-15792 against tobacco flea beetle, 826
R-16876A against: *Acheta pennsylvanicus*, 219
darksided cutworm, 201
R-17853 against: *Acheta pennsylvanicus*, 219
darksided cutworm, 201
R-20302 against *Acheta pennsylvanicus*, 219
darksided cutworm, 201
R-20458 against mosquitoes, 913
R-28627 against ladybird beetle, 961
Ro20-3600 against mosquitoes, 913
Rabon, effect on dairy cows, 135
Rabon against: house flies, 1077
yellowjackets, 1097
Raisin moth in untreated almonds, 741
Raisins, PP-511 protectant for, 1305
Rape, aphid control on, 1303
Rearing, alfalfa loopers, 569
Angoumois grain moth, 107
apple maggot larvae, 555
boll weevil, 1063
celery loopers, 569
cells, and incubation of corn earworm, 284
codling moth, 383, 390
cotton leafperforator, 1333
insects, mobile facility for, 245
introduced pine sawfly, 262
lygus bugs, 810
method for bioassays, 1224
Microctonus aethiops, 164
plum curculio, diet for, 362
southern corn rootworm, 398
southern green stink bug, 269
Spodoptera littoralis, 565
tarnished plant bug, 1354
tobacco budworm, 817
trays, lesser peachtree borer extracting from, 247
white pine weevil, 593
Red cotton bug, sperm utilization, 805
Red imported fire ant, candidate bait toxicants, 550
Redbacked cutworm, control in organic soil, 444
toxicological studies on, 444
Redbanded leafroller, sex attractants and traps for, 1129
Redheaded pine sawfly, control, 288
Redicote against mosquitoes, 697
Repellents, temperature on protection time, 437
Reproduction, and analogues of *Habrobracon juglandis*, 319
Reproduction of: alfalfa weevil, apholate influence on, 1023
melon fly, 661
moths in almonds, 741
Residual properties of methyl parathion, 1117
Residues of: chlordane in potatoes, 1125
chlorphoxim in coastal bermudagrass, 798
CO_2 on lettuce, 573
organophosphorus insecticides from cotton foliage, 332
phosphine on soybeans, 800
Resistance, body lice to malathion, 118
insecticide, in sugarcane borer, 576
pyrethrins, in German cockroach, 27
Resistance of: boll weevil to malathion, failure, 791
chickpea to *Callosobruchus maculatus*, 578
corn earworm, transmission, 534
cowpea to cowpea curculio, 1011
cucumber to twospotted spider mite, 380
Culex pipiens quinquefasciatus to petroleum hydrocarbons, 288
German cockroach to diazinon, 44
Japanese beetle to cyclodiene insecticides, 520
melon aphid to *Citrullus*, 1111
pineapple to fruit flies, 522
plants to vetch bruchid, 456
rhodesgrass scale, 467
rice to lesser grain borer, 1005
rice water weevil, screening for, 572
sorghum to greenbugs, 1131
spider mites to acaricides, 549
thrips in peanuts, 91
tobacco budworm, 292
western corn rootworm to diazinon and phorate, 1015
wheat to wheat stem sawfly, 1121
Resmethrin, resistance to insect penetration of bags, 541
to control flies, 1281
toxicity to *Malacosoma* spp., 630
Resmethrin against: *Adelges abietis*, 811
boll weevil, 527
Douglas-fir tussock moth, 1256
elm spanworm, 628
fall armyworm, 527
southern armyworm, 527
tobacco budworm, 527
tomato fruitworm, 474
twospotted spider mite, 527
western blackheaded budworm, 274
western tent caterpillar, 996
western tussock moth, 54
Restless bush cricket, insecticide toxicity to, 559
Rhagoletis fausta, 1350
pomonella, 555, 1351
Rhipicephalus sanguineus, 1283
Rhodesgrass scale resistance, 467
Rhopalosiphum maidis, 463, 570, 945, 953
padi, 1019
Rhyacionia frustrana, 542, 1236
Rhyzopertha dominica, 277, 541, 1005, 1147, 1168, 1209
Rice, Angoumois grain moth control in, 1353
resistance to lesser grain borer, 1005
screening for weevil resistance, 572

ULV phosphamidon effect on, 1107
lines, reaction to stalk borers, 794
mill, insect control in, 1147
Rice water weevil, screening rice for resistance, 572
Rice weevil, growth responses, 681
reactions to wheat products, 447
screening sorghum grain for resistance, 1222
Rogas nolophanae, 665
Ronnel against: fruit flies, 838
horn flies, 1081
house flies, 1077
southern armyworm, 69
ticks, 131, 1275
tobacco budworm, 517
Rosemary, *Helicella* infesting seeds, 935
Rotenone against ticks, 131, 1275
Rubidium, effects in diet of cabbage looper, 324
Ryania against sugarcane borer, 249

S

S-2957 against: ladybird beetle, 961
Stethorus punctum, 1197
Salithion against bagworms, 941
Sampling technique for effectiveness of treatments in gypsy moth control, 1357
San Jose scale control, 1354
Sarcophaga argyrostoma, 1348
crassipalpis, 1348
Scalopse sp., 247
Schistocerca americana, 538
Schizaphis graminum, 847, 945, 953, 1131, 1181
Scolytus multistriatus, 79, 208
Scotch pine, injury from *Eulachnus*, 651
phorate distribution in, 530
Screening, cotton for Lygus nonpreference, 1312
rice for rice water weevil resistance, 572
sorghum grain for rice weevil resistance, 1222
Screwworm, chemosterilant atrophy of testes, 424
herbicide toxicity to, 529
oviposition by, 422
Scutigerella immaculata, 822
SD-8211, toxicity to hens, 140
SD-8280, toxicity to hens, 140
SD-8448 against ticks, 131, 1275
SD-9098 against Japanese beetle, 478
SD-14114 against: apple aphid, 238
European red mite, 238
ladybird beetle, 961
SD-14238 against: apple aphid, 238
European red mite, 238
SD-17250 against: apple aphid, 238
European red mite, 238
Stethorus punctum, 1197
Seasonal abundance of *Heliothis* on cotton, 524
Seed corn maggot control, 1191
Separating, boll weevils from samples, 1332
imported fire ants, 295
Sesamex and toxicity to southern cattle tick, 1248
Sevimol against: elm spanworm, 1188
gypsy moth, 1188
Sex attractant(s), for apple budmoth and leafrollers, 1129
of western corn rootworm, 1051
Sex attractiveness of elder shoot borers, 814
Sex pheromone, megatomic acid, mating of black carpet beetle by, 1327
obtaining from moths, 1220
Plodia interpunctella, 1258
production in *Dacus* (*Strumeta*) *tryoni*, 62
Sex pheromone of: Indian meal moth, 845
Mediterranean fruit fly, investigating, 812
Shell (see SD)
Shipping Japanese beetles, 294
Simulium, against *Leucocytozoon smithi*, 426
congareenarum, 426
jonesi, 427
slossonae, 426
tuberosum, 427
venustum, 427
verecundum, 427
Siphonaptera, 689
Sitona cylindricollis, 1037
Sitophilus granarius, 277, 541, 681, 1168
oryzae, 485, 512, 541, 681, 1168, 1222
zeamais, 541, 681
Sitotroga cerealella, 107, 1220, 1353
6 CP gelatin against imported fire ant, 241
Small grains, corn leaf aphid effect on, 570
SN-344 against European red mite, 239
Snap bean, *Liriomyza munda* on, 539
Sodium benzoate and sodium propionate in boll weevil diet, 577
Sodium silicate against imported fire ant, 242
Soil, biological activity of insecticides in, 855
insecticides, candidate materials, 216
persistence and metabolism of phorate in, 863
treatments, onion thrips suppression with, 975
Solar heat and mortality of spruce beetle, 401
Solenopsis invicta, 241, 295, 550
richteri, 241, 295
saevissima richteri, 241
Solvents effects on tropical horse tick oviposition, 125
Sorghum, greenbug management on, 945, 953
greenbug resistance in, 1131
Sorghum grain, screening for resistance to rice weevil, 1222
Sorghum midge, diapause, 647
Southern armyworm, insecticide standards against, 68
Southern cattle ticks, acaricidal activity of formamidine compounds to, 1247
Southern corn rootworm, dry diet for, 352
rearing, 398
Southern green stink bug, rearing, 269
Southern pea resistance to cowpea curculio, 1011
Southern pine beetle, suppression, 897
Southern potato wireworm, blacklight traps against, 403
light-trap catches, 757
Southwestern corn borer, and hypocholesterolemic agents, 1336
host plant resistance, 503
Soybeans, control of green cloverworm on, 1137
phorate and aldicarb effects in, 815
phosphine residues on, 800
Spalangia cameroni, 910
drosophila, 910
endius, 910
nigroaenea, 910
Spanogonicus albofasciatus, 189
Species radiation sensitivities of flour beetles, 251
Sperm utilization in red cotton bug, 805
Spider mites, associated with grain sorghum and corn, 1220
resistance to acaricides, 549
Spinach, green peach aphid trials on, 459
Spodoptera eridania, 68, 527
exigua, 657, 807
frugiperda, 296, 527, 973
control, 1287
Spodoptera littoralis, 1293
computation of filial generations, 589
control, 235
gelling technique for rearing, 565
Spodoptera ornithogalli, 1000
Spray droplet sizes and cotton, 260
Sprayer for small plots, 252
Spring emergence of tobacco flea beetle, 116
Spruce beetle, mortality, 401
Spruce budworm, egg counting, 992
juvenile hormone effect on pupae, 1033
Stable fly, Altosid stability in medium, 707
and milk production, 711
flight and dispersal, 410
juvenile hormone against, 1099
juvenile hormone-active compounds in medium, 301
response to electromagnetic radiant energy, 1269
Stalk borers, rice line reaction to, 794
Stauffer (See R, N)
Steer(s), effects of mosquitoes on, 1081
R-3828 metabolism by, 119
Stegobium paniceum, 277
Stem solidness in wheat stem sawfly resistance, 1121
Stenodiplosis bromicola, 1329
Sterlization of: *Drosophila melanogaster*, 753
Japanese beetles, 1047
olive fruit fly, 55
tobacco budworm, 1067
Stethorus punctum, tolerance to pesticides, 961
vs. pesticides on apple trees, 1197
Stirellus bicolor, 1347
Stomoxys calcitrans, 268, 301, 410, 707, 821, 1081, 1099, 1269, 1281, 1348
sticky traps for sampling, 1279
Stored grains, insect controlling, 277
Stored-product insects, phosphine fumigation against, 1209
Strawberry mite, acaricides against twospotted spider mites on, 490
Strobane against: black carpet beetle, 547
fruit flies, 837
turbicid worm, 72
Substituted 1,3-benzodioxole synergists, 631

Sugarcane, sugarcane borer control on, 802
Sugarcane borer, control, 249, 802
insecticide resistance in, 576
Sulfotepp against: aphids, 1135
fruit flies, 838
Sulfur against: corn leaf aphids, 948
greenbugs, 948
ladybird beetle, 961
Sulfuryl fluoride against brown dog tick, 1285
Sunflower, bionomics of carrot beetle attacking, 86
damage by *Contarinia schulzi*, 282
Superior oil to control San Jose scale, 1354
Suppression of pecan weevil, 723
Supracide against: collard insects, 1159
corn leaf aphids, 948
greenbugs, 948
green peach aphid, 460
restless bush cricket, 560
tobacco flea beetle, 826
tobacco hornworm, 582
white peach scale, 1292
Sweet corn, corn earworm and fall armyworm control on, 973
seedcorn maggot control on, 1191
Sweetclover weevil, adenosine feeding stimulant for, 1037
Sweet sorghum, lesser cornstalk borer control in, 1233
Synanthedon pictipes, 247
Synanthropic flies, attractants for, 1055, 1089, 1339
Synergism of: carbaryl toxicity in insect populations, 1347
juvenile hormone isomers, 793
Synthesis of Indian meal moth sex pheromone, 845
Synthetic pyrrethroids as package treatments, 540

T

Tagging boll weevil, 563
Tamaron against Egyptian cotton leafworm, 1293
Tarnished plant bug rearing, 1354
TD-5032 against: black cutworm, 205
green peach aphid, 460
Japanese beetle, 478
TD 8550 against: *Acheta pennsylvanicus*, 219
aster leafhopper, 265
cutworm, 201, 205, 445
Japanese beetle, 478
TDE against: fruit flies, 838
Platynota idaeusalis, 991
tobacco budworm, 980
tobacco hornworm, 582
whitefringed beetle, 283
Tea scale control, 533, 1163
Temperature, influence on codling moth flight, 883
Temperature effect on: insecticide toxicity to cabbage looper, 339
protection time, 437
Tenebrio molitor, 793
sensitivity to gamma irradiation, 1175
Tenebrio obscurus sensitivity to gamma irradiation, 1175
Tenebroides mauritanicus, 541
Tepa, effects on potato aphid, 964
ovarian growth by in *Dysdercus cingulatus*, 20
Tepa against: *Anopheles albimanus*, 613
Drosophila, 159, 753
house fly, 24
olive fruit fly, 56
Tepp against *Platynota idaeusalis*, 991
Terbeno against fruit flies, 837
Tetradifon against fruit flies, 838
Tetramethrin, resistance to insect penetration of bags, 541
Tetranactin, properties, 349
Tetranychus cinnaburinus, 349, 549, 623, 1220
kanzawa, 349
pacificus, 157
spp., 189
ulmi, 349
urticae, 227, 349, 380, 490, 527, 549, 997, 1041, 1220, 1250, 1342
viennensis, 349
Thecodiplosis liriodendri, 1241
Therioaphis trifolii, 552, 1331
Thermal, effects on alfalfa weevil, 309
mortality of bollworm, 286
Thiohempa against: *Anopheles albimanus*, 613
house fly, 24
Thiotepa, in study of *Anopheles albimanus*, 305
Thiotepa against: *Anopheles albimanus*, 613
house fly, 24
Thiram against: ladybird beetle, 961
seedcorn maggot, 1193
Thrips, resistance in peanuts, 91
Thrips tabaci, 975
Thundershowers, pink bollworm mortality from, 531
Thuricide against: cabbage looper, 276
collard insects, 1159
grape pests, 157, 195
green peach aphid, 460
sugarcane borer, 803
tobacco hornworm, 582
Thuricide 90TS against tobacco budworm, 980
Thuricide 90TS + Triton X-100 against tobacco budworm, 980
Thuricide 90TS + Triton X-100 + corn oil against tobacco budworm, 980
Thuricide 90TS + Triton X-100 + corn syrup against tobacco budworm, 980
Thuricide 9088 against tobacco budworm, 980
Thuricide 9088 + casein against tobacco budworm, 980
Thuricide 9088 + parathion against tobacco budworm, 980
Thuricide 90002 against tobacco budworm, 981
Thuricide 90002-A against tobacco budworm, 981
Thuricide HP against tobacco budworm, 980
Thymelicus lineola, mowing and silica sprays effects on, 907
Thyridopteryx ephemeraeformis, 675, 941
Thysanoptera, 91, 975, 1217
Timing of honey bee colonies, 370
Tinea fuscipunctella, distribution, 685
carbofuran to control insects on, 480
corn earworm damage to, 232
methomyl residues on, 197
sex-lure-trap influence on, 1218
tobacco budworm control on, 979
tobacco budworm damage to, 232, 470
tobacco flea beetle control on, 825
Tobacco, tobacco hornworm control on, 581
Tobacco budworm, carbaryl against, 1226
compounds showing selective activity against, 527
control, 516, 979
cross resistance in, 292
damage to tobacco, 232, 470
hormones against, 833
insecticidal mixture interaction in, 517
irradiating, 1067
juvenile hormone in, 15
LD_{50} values to, 211
mating, 356
methylcarbamate toxicity against, 272
nocturnal activity in electric grid traps, 543
oviposition on cotton stocks, 418
penetration of insecticides into larva, 9
reduced capture in electric grid traps, 739
toxaphene-DDT applied to, 523
trapping, 450
use of dry diet flakes in rearing, 817
Tobacco flea beetle, carbaryl against, 1226
insecticides for control on tobacco, 825
overwintering, 116
Tobacco hornworm, life stages prolongation, 1231
marking spermatophore, 719
methomyl, monocrotophos against, 581
Tomato fruitworm control, 473
Tomato pinworm, hosts, 109
Tomatoes, diazinon application to, 1001
Drosophila suppression in, 159
methomyl against greenhouse whitefly in, 1223
Torbidan against: Egyptian cotton leafworm, 1293
green cloverworm, 1138
Toxaphene, applied to bollworm and tobacco budworm, 523
Toxaphene against: cowpea curculio, 728
fruit flies, 838
green cloverworm, 1138
pecan weevil, 497
southern armyworm, 69
ticks, 131, 1275
turbicid worm, 72
Toxaphene + DDT, applied to bollworm and tobacco budworm, 523
Toxaphene + DDT against: cowpea curculio, 729
Heliothis larvae, 151
Toxaphene + DDT + EPN against Egyptian cotton leafworm, 1294
Toxaphene + DDT + methyl parathion against: Egyptian cotton leafworm, 236
Heliothis larvae, 151
Toxaphene + EPN against Egyptian cotton leafworm, 1294
Toxicity of: acephate and diazinon to harlequin bugs, 827

apple orchard herbicides, 1342
busulfan to Japanese quail, 341
formamidine acaricides to *Boophilus microplus*, 1245
halogenated organophosphates to *Boettcherisca peregrina*, 595
herbicides to screwworm, 529
insecticide standards against southern armyworm, 68
Toxicity of insecticides to: *Acarus* and *Tyrophagus*, 1237
cabbage looper, 339
Douglas-fir tussock moth, 1255
elm spanworm, 627
gypsy moth larvae fed on artificial diet, 544
pecan weevil, 497
Platynota idaeusalis, 991
restless bush cricket, 559
turbificid worm, 70
western blackheaded budworm, 274
western tent caterpillar, 629, 995
Toxicity of: juvenile hormones to aphids, 1019
methylcarbamates against bollworm and tobacco budworm, 272
organophosphorus insecticides to hens, 139
Toxicological studies: on cutworms, 199, 203, 444
with twospotted spider mites, 1041
trans-6-Nonen-1-ol acetate, ovipositional attractant of melon fly, 1355
Translocation of Monitor, 867
Transmission of: corn earworm resistance, 534
maize virus by *Graminella nigrifrons*, 1271
pea leaf roll virus by aphids, 1331
Trapping, European chafers, 1225
pink bollworm, 298, 1349
Traps, BL: against southern potato wireworm, 403
for tobacco budworm collection, 450
vs. plastic sheeting for European chafer trapping, 1225
Traps, box, for gypsy moth capture, 359
colored, Japanese beetles as lures in, 1236
designs and hexlure releases, 377
Traps, electric grid: for tobacco budworm collection, 450
reduced capture of budworm and earworm in, 739
Traps, female-baited, to attract male moths, 1006
Traps, light: battery-powered, 393
for southern potato wireworms, 757
Traps, on corn ears for corn earworm, 989
Traps, pheromone, and: California red scale, 1333
oriental fruit moth, 1307
Traps, portable electric grid, 1232
sex-lure, influence on tobacco budworms, 1218
sex-pheromone, *Episimus argutanus* catches in, 1345
shielded, to capture Japanese beetle, 562
Traps, sticky, for *Stomoxys calcitrans* sampling, 1279
tobacco budworm collection, 450
24-hour directional aphid, 291
Traps for: apple budmoth and leafrollers, 1129
coconut rhinoceros beetles, 1216
Japanese beetle, 275
Trialeurodes vaporariorum, 1223
Tribolium audax, baits for, 454
castaneum, 251, 280, 485, 540, 1147, 1168, 1209, 1305
confusum, 251, 485, 512, 540, 967, 1168, 1209
ovicidal effects of food additives, 765
Trichlorfon, effects on gypsy moth and elm spanworm, 271
toxicity to *Malacosoma* spp., 630
Trichlorfon against: alfalfa leafcutting bee, 454
army cutworm, 299
bagworms, 941
Brassolis sophorae, 178
cattle grubs, 429
collard insects, 1160
fall armyworm, 1288
forest tent caterpillar, 574
fruit flies, 838
gypsy moth, 544
Japanese beetle, 478
Platynota stultana, 156
restless bush cricket, 560
southern armyworm, 69
ticks, 131, 1275
western tent caterpillar, 996
western tussock moth, 54
white peach scale, 1292
Trichlorfon + oxydemetonmethyl against Cuban laurel thrips, 1217
Trichogramma spp., 107, 189
Trichoplusia ni, 114, 189, 217, 261, 276, 296, 324, 339, 807, 1159, 1221, 1343
NPV against collard insects, 1160
Trichoplusia oxygramma, 115
Trichoptera, 1
Triops longicaudatus, 917
Trirhabda adela, 1347
Triton against mosquitoes, 697
Triton X-114 against *Platynota idaeusalis*, 991
Trogoderma glabrum, 541
granarium, 261
inclusum, 541, 1168
spp., 1169
variabile, 541, 1168
baits for, 454
Tropical horse tick, solvents effects on oviposition, 125
Tropisternus lateralis, 917
l. nimbatus, 1347
Tropital and toxicity to southern cattle tick, 1248
Tryporyza incertulas, 1107
Tubing, polyethylene, wireworm damage to, 824
Tufted apple budmoth, sex attractants and traps for, 1129
Turbificid worm, insecticide toxicity to, 70
Turkeys, chlorpyrifos and pyridinol residues in, 715
Leucocytozoon smithi control on, 426
Turnip, leaf area estimates, 104
Turnip aphid, control, 1303
Tween 20 against *Platynota idaeusalis*, 991
Twilight simulation in environmental chambers, 1334
Twospotted spider mite, acaricides against, 490
compounds showing selective activity against, 527
control with indopol polybutenes, 997
oxythioquinox acaracide studies with, 1041
resistance in cucumber to, 380
toxicity of apple orchard herbicides to, 1342
Typhlocyba pomaria, 1201
Tyrophagus putrescentiae, 386
insecticide toxicity to, 1237

U

U-12379 against *Heliothis*, 273
U-15541 against *Heliothis*, 273
U-18120 against *Heliothis*, 273
U-20493 against *Heliothis*, 273
U-36059 against ladybird beetle, 961
U-38099 against *Heliothis*, 273
U-38117 against *Heliothis*, 273
U-39821 against *Heliothis*, 273
UC-10854 against tobacco hornworm, 582
Ultra-low-volume (see ULV)
Ultraviolet (see UV)
ULV, phosphamidon on rice, 1107
spray deposits on *Heliothis zea*, 586
tests for diapause control, 498
Upjohn (see U)
UV, irradiation on cockroaches, 859
lamp pass-through cabinet, 1063
light regimens, American cockroach behavior under, 1143

V

Vegetable leaf miner control, 1001
Vespula atropilosa, 803, 903
maculata, 1348
pensylvanica, 803, 903, 1097
vulgaris, 1097
Vetch bruchid, resistance in vetch species, 456
Vigor of codling moths, 374
VT 2709 against Egyptian cotton leafworm, 1293
Vydate-L against ladybird beetle, 961

W

Walnuts, PP-511 protectant for, 1305
WARF antiresistant and toxicity to southern cattle tick, 1248
Water, *Anastrepha suspensa* collecting in circulating, 567
soluble stains for marking tobacco hornworm, 719
ZR-515 persistence in, 923
Western blackheaded budworm, insecticide toxicity to, 274
Western corn rootworm, oviposition, fecundity, longevity, 417
resistance to diazinon and phorate, 1015
sex attractant of, 1051
Western grapeleaf skeletonizer control, 194
Western pine beetle, lindane against, 208
White pine weevil, rearing, 593

Western spruce budworm, nonresistance to Zectran, 801
Western tent caterpillar, insecticide toxicity to, 995
toxicity of insecticides to larvae, 629
Western tussock moth, insecticides against, 53
Wheat, chlorpyrifos residues in, 769
control of insects by inert-atmosphere generators in, 511
dichlorvos a protectant, 225
dichlorvos degradation on, 761
English grain aphid effect on, 1326
Gardona against insects in, 485
leptophos residues in, 1321
Phyllophaga damage and control in, 773
products, rice weevil reactions to, 447
stem solidness in wheat stem sawfly resistance in, 1121
Wheat stem sawfly, stem solidness in wheat for resistance, 1121
White-eyed mutant of Mediterranean fruit fly, 560
White light regimens, American cockroach behavior under, 1143
White mice, *Hypoderma lineatum* in, 432
White mutant of cabbage looper, 1343
White peach scale, life history and control, 1290
Whitefringed beetle, artificial diet for, 581
dichlorvos against, 225
resistance to dieldrin, 283
Wing traps, control of boll weevil with, 507
to suppress boll weevils, 492
Wireworm, control in potatoes, 1205
damage to pylyethylene tubing, 824

X

Xenopsylla cheopis, dichlorvos against, 689
Xerophloea viridis, 880, 1347
Xylota sp., 917
X-ray effects on flour beetle, 967

Y

Yellow-eyed mutant of melon fly, 792
Yellowfever mosquito, compounds that attract, 329
Yellowjacket, abatement, 1097
artificial housing, 803
capture-recapture system for, 903
Yellow-poplar, control of leaf-feeding insects on, 1240

Z

Zea mays, introductions as corn rootworm tolerance, 101
Zectran, western spruce budworm nonresistance to, 801
Zectran against: gypsy moth, 544
Heliothis, 273
ticks, 131
western blackheaded budworm, 274
western tent caterpillar, 996
western tussock moth, 54
ZETA, inhibitor of response to sex pheromone of *Plodia interpunctella*, 1258
Zetsellia mali, 1202
Zineb against ladybird beetle, 961
Zinophos against: *Folsomia candida*, 855
fruit flies, 837
ZR-515 against mosquitoes, 913
persistence in water, 923